Final Report of the study on Implants Acceptance, Utilization and Discontinuation in Huambo and Luanda, Angola.

Evaluation of Long-Acting Contraceptive (Implant) Acceptance, Utilization, and Discontinuation in Huambo & Luanda, Angola

Final Report & Recommendations

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Executive Summary

Since 2011, Jhpiego has been working in Angola to implement a five-year health systems strengthening program, known in Portuguese as Fortalecimento dos Sistemas Angolanos de Saúde. A key component of this program has been to expand and improve access to modern contraceptives in Huambo and Luanda provinces; in particular, there has been emphasis on the use of Jadelle brand contraceptive implants. Between June of 2012 and September of 2013, approximately 13,000 women received contraceptive implants. Recent anecdotal evidence however has indicated that there are numerous women returning to have their implants removed before the end of the five-year limit. This study was therefore conducted to understand motives for discontinuation, barriers to acceptance and use, and potential strategies to address the identified challenges.

We conducted reviews of clinic records, in-depth interviews, and focus groups with clients (current and former users of implants) and providers. The study was conducted over a period of 3 months from September to November, 2015, in 8 different clinics across Huambo and Luanda. Three phases of data collection were carried out, starting with a review of existing records at clinics to identify and extract motives for discontinuation. From the total of 266 records that were collected, the primary motives for discontinuation were found to be side effects (56%), desire for pregnancy (22%), and husband/partner influence (16%).

A total of 45 in-depth interviews and six focus groups were carried out across Huambo and Luanda provinces during phases 2 and 3 of data collection. Key findings can be broken down into the following categories: motives for discontinuation, factors leading to acceptance/use, and strategies to address discontinuation and barriers to use.

Motives for Discontinuation
1. Adverse side effects including prolonged/severe menstrual bleeding, changes in weight, headaches, dizziness, nausea, coupled with poor counseling
2. Partner or husband dissatisfaction or dislike with the implant
3. Alternative information of implants or lack of information about implants

Factors Leading to Acceptance & Use
1. Prevention of unwanted pregnancy and birth spacing
2. Overall convenience relative to contraceptive pills and injections
3. Ability to maintain work and studies until a woman is ready for children

Strategies to Address Discontinuation & Barriers to Use
1. Education and awareness campaigns within communities, using various channels such as TV, radio, pamphlets, and lectures to deliver information
2. Couples counseling or male targeted counseling to educate partners
3. Training providers to deliver higher quality counseling to clients and to improve overall provider knowledge of how to mitigate side effects

Key recommendations moving forward are focused around provider and program-oriented strategies. Structured decision-making tools for use in counseling should be considered to help both provider and patient make more informed choices. As well, providers should be trained to better mitigate adverse side effects of clients. Lastly, outreach to communities and increased education or awareness campaigns should be conducted to better disseminate accurate information.
Introduction & Background

In recent years, Angola has made significant progress since the end of a 27-year long civil war in providing basic and essential health services to its population. High maternal and child mortality rates however continue to pose a challenge to the long-term health and well-being of Angolans. Angola presently has the highest under five-mortality rate in the world, at 167 deaths per 1000 live births\(^1\), and a maternal mortality ratio of 460 deaths per 100,000 live births.\(^2\) Both of these issues are inextricably linked to a high fertility rate. As of 2013, the crude birth rate of Angola was 44 live births per 1000 people\(^3\); more notably, the adolescent fertility rate (women between the ages of 15-19) was 167 live births per 1000 women.\(^4\)

Birth rate and fertility rate are linked to maternal and child mortality, both directly and indirectly. In sub-Saharan Africa, pregnancy is considered to be the most dangerous event for women to undergo.\(^5\) Contraceptive use and family planning reduces maternal deaths by reducing the number of pregnancies, which in turn reduces exposure to the complications associated with pregnancy.\(^6\) Avoiding pregnancy also allows women to avoid unwanted pregnancy and unsafe abortions, as well as the prospect of having children at too early or late an age, which are both associated with higher risks of mortality.\(^6\) Ability to birth space improves maternal health by giving the mother time to recover in between pregnancies, and also improves child health by reducing competition for scarce resources.\(^6\) The ability to access and use family planning is therefore critical to improving both maternal and child health, and in turn, population level health in Angola.

The Ministry of Health in Angola, supported by USAID and the Fortalecimento do Sistema Angolano de Saúde (ForçaSaúde) program, has promoted the use of all family planning methods, of which include: long-acting contraceptive methods, including intrauterine devices (IUDs), sub-dermal contraceptive implants (Jadelle brand), contraceptive hormonal injections (Depo-Provera), pills, and male/female condoms. In particular, Jhpiego has focused specifically on expanding access and choice to modern contraceptives across Huambo and Luanda provinces, of which include Jadelle implants. Jadelle implants consist of two small plastic capsules that release progesterone hormones into the body, and are inserted into the upper arm by a trained provider.\(^7\) They are effective immediately, and have a lifespan of five years before needing to be removed, upon which women can return to fertility. Currently around the world, there are two major brands of implants in use: Implanon (Merck & Co.), and Jadelle (Bayer). See Appendix A for a comparison of implant characteristics.

Clinical trials on contraceptive implants have found them to be a safe and effective method of contraception, although common side effects reported include increased menstrual bleeding in early stages of use, irregular menstruation or a lack of menstruation, headaches, dizziness, nausea, abdominal pain, acne, weight gain, and pain at the site of insertion.\(^7\) A Cochrane review of 8 different studies comparing the effectiveness of implant types (Norplant, Implanon, Jadelle) concluded that all three are highly effective contraceptive methods, with no significant differences amongst the three in terms of effectiveness or continuation rates.\(^8\)

Between June 2012 and September 2013, approximately 13,000 women received contraceptive implants across Huambo and Luanda provinces as a part of the ForçaSaúde program.\(^9\) More recently however, anecdotal evidence has indicated that an increasing
number of women have been returning to clinics to have their implants removed before the five-year life span is over. This paper describes primary motives influencing women in Luanda and Huambo, Angola to have their long-acting contraceptive implants removed, what perceptions on family planning within the community are, and strategies that can be implemented to address these challenges.

**Literature Review**

There is a growing body of literature on the use of long-term contraceptive methods and barriers to use in low-income settings, as well as unmet need for family planning. Specific to Angola however, there has been no formal study looking at the motives for long-term contraception discontinuation within the country, and what barriers exist to access and uptake.

**Contraceptive Implants**

Contraceptive implants have been available for use across sub-Saharan Africa since 1980. Short-term contraceptive methods however continue to be the most common method of contraception and family planning.

Of the existing studies on contraceptive implant discontinuation, results have varied from location to location. A study in Southern Nigeria looking at all clients using sub-dermal contraceptive implants over a 4-year period found that education was associated with uptake of implants. Complications were seen in 5.1% of clients, but only 1% of clients discontinued their implant during the study period. In contrast, a study on the uptake of hormonal implants in Northern Nigeria saw a discontinuation rate of 26% for Jadelle. Of those who discontinued use, 64.8% cited menstrual disturbances as the primary reason, followed by desire for pregnancy (23%). In a study on the use of Implanon in 140 women in Malaysia, 23% of participants discontinued use, with a mean duration of use of 24 months. Of those who discontinued, 56.3% cited irregular bleeding as the reason for stopping use, followed by desire for pregnancy (31.3%).

In Egypt, a study conducted to assess the relationship between the impact of menstrual side effects on long-term contraceptive discontinuation found that specific to implants, over 40% of those who discontinued listed menstrual side effects as a motive, while half also listed other side effects. The study found that counseling, together with bleeding, was correlated with higher rates of discontinuation compared to women who were bleeding but received no counseling. This perhaps can be attributed to the quality of counseling received by women, and the fact that women may have only received partial counseling regarding the advantages of the method, rather than potential disadvantages as well. Contradicting information received by women regarding the likelihood of decreased menstruation or altogether an absence of menstruation may have also influenced discontinuation when the opposite of what was expected occurred.

**Other Long-Term Contraceptive Methods**

Looking at other long-acting contraceptive methods, in particular IUDs, independent studies in Pakistan and China, along with a multi-country evaluation of the
Marie Stopes International family planning program, have found that the primary reasons for discontinuation of IUDs are side-effects, expulsions, desire for pregnancy, and partner disapproval.\textsuperscript{14–18} Discontinuation rates have been found to be variable across countries and settings. In Pakistan, a study found that at the 10-month mark, discontinuation of the IUD was 19\%.\textsuperscript{14} In a report published by Marie-Stopes that compared data from 14 low and middle-income settings, IUD discontinuation at 12-months ranged from 9.6\% in Turkey to 37.3\% in Bangladesh.\textsuperscript{18} At 24-months, this range increased to 15.3\% in Indonesia, to 53.9\% in Bangladesh. By 36-months, there was a 24.6\% discontinuation rate in Indonesia, and 66\% in Bangladesh. In addition, the report indicated that in many of these countries, 50\% or more of women who discontinued their IUD had switched to another modern method within 3 months, with a high of 69.8\% in Morocco, and a low of 16.7\% in Bolivia.\textsuperscript{18}

### Supply & Demand of Family Planning

Recent estimates of unmet demand for modern contraceptives in developing countries is estimated to be 32\%.\textsuperscript{19} Across Southern and Eastern Africa, this ranges from 18\% in Zimbabwe, to 44\% in Uganda.\textsuperscript{19} Unmet demand for modern contraceptives has been noted as being the result of a number of factors. This includes a lack of knowledge, concerns about health and side effects, lack of partner or husband support, and access to high quality services.\textsuperscript{20}

In Uganda, where fertility rates are similar to that of Angola’s at 6.7 children per women, lack of or inconsistent political support has also been considered as a barrier to uptake of modern contraceptives.\textsuperscript{21} A 2006 survey found that unmet need was greatest amongst women who were currently married at 41\%, and lowest amongst those who had never married (2\%).\textsuperscript{21} Women living in rural areas were found to have higher levels of unmet need than those in urban areas. Other factors that appeared to be associated with higher levels of unmet need include age, with those between the ages of 35-44 with the highest levels of unmet need; household wealth, with those in the lowest wealth quintiles had the highest levels of need; parity, where those with higher parity (3+) had greater levels of unmet need, and exposure to family planning related media.\textsuperscript{21}

### Family Planning in Angola

Estimates as of 2011 indicate that only 6\% of married Angolan women use contraception, of which 4\% are modern methods, and 2\% traditional.\textsuperscript{22} Contraceptive use is concentrated amongst women in the highest wealth quintile at 14\%, while only 1\% of women in the lowest wealth quintile use modern contraceptives.\textsuperscript{22} A 2002 MICs study conducted across Angola found that of all methods including traditional methods, contraceptive pills were the most commonly used method. A third of all women who reported using contraceptives cited the pill as their method of choice (2.2\%), followed by abstinence (1.1\%), and injections (1.4\%).\textsuperscript{23} At the time of this survey, it does not appear as if implants had been widely introduced into the country. More recent data on method mix in Angola is not available, and data on unmet need in Angola is limited.

The government of Angola has stated that they are committed to making progress on the Millennium Development Goals (MDGs), in particular focusing on MDG 4
(reduce infant mortality) and objective 5 (improve maternal health). In conjunction with the United Nations Population Fund (UNFPA), the Government of Angola developed a country cooperation plan to achieve improvements in five main areas in line with the Government of Angola’s long-term 2025 development strategy. These areas include governance, justice and data for development, the social sector (of which includes health, water, HIV/AIDS and education), HIV/AIDS, and sustainable economic development.

Within this development plan, reproductive health and rights stands alone as its own component, with the goal of “increased utilization of high-quality reproductive health services and comprehensive HIV/AIDS prevention services…” To achieve this outcome, the Government of Angola and UNFPA designated four outputs, of which the first was to integrate HIV services into reproductive health programmes. Eight strategies to achieve this output were subsequently outlined, of which five directly relate to the improvement of family planning services, access to family planning services, and dissemination of information around family planning. Family planning and long-term contraceptives have therefore been clearly incorporated into the long-term development strategy of Angola by the government, and formalized into agreements with external donor agencies.

**Objectives**

The study had two primary objectives to address:

1. To determine what the primary reasons for contraceptive implant discontinuation are, and what barriers exist to adoption and long-term utilization
2. To identify potential strategies to mitigate barriers to use of implants and other family planning methods

The study aimed to address the following four research questions:

1. What are the primary reasons behind the women’s requests for removal of long-acting contraceptive implants?
2. What barriers and challenges exist to the long-term acceptance and use of long-acting contraceptive implants for women?
3. What are local perspectives on the advisability of practicing family planning and ideal family size?
4. What are potential strategies and solutions that can be implemented to improve and maintain the continued acceptance and use of long-acting contraceptive implants?

**Methodology**

**Study Setting**

The study was conducted in both Huambo and Luanda provinces, which are the primary recipients of the family planning initiative by USAID. Luanda province has an estimated population of 6,542,944, and Huambo province has an estimated population of 1,735,244. Geographically, Huambo province spans an area of approximately 33,300 square kilometers.
square kilometers\(^2\), while Luanda province is approximately 2417 square kilometers. The provinces vary widely across a number of factors, including climate, economy, and proportion of inhabitants living in urban vs. rural settings (97.5% urban in Luanda vs. 46.7% urban in Huambo\(^2\)).

Purposeful selection of clinics was used to maximize variety in size and geographic location, however due to the fact that it is primarily larger facilities that offer implant-related services, all clinics were in urban or peri-urban settings. The study was conducted between September 2015 and November 2015.

**Study Design and Methods**

We employed multiple methods to investigate the problem, using existing data and records, and qualitative methodology. Existing records were extracted from clinics to identify duration of use and motives for discontinuation. Additional variables including age, education, existing number of children, number of pregnancies, and number of abortions were recorded when possible, however clinics varied in regards to the type and quality of data collected.

In-depth interviews and small group interviews were conducted with providers who work in the family planning program, clients who are former users of long-acting implants, and clients who are currently still using their long-acting implants. Interviews and focus groups were conducted by trained data collectors in Portuguese. Data collectors received 2 days of training where key principles and methods of qualitative methodology were taught. Data collectors also conducted practice interviews with clients and providers in non-study clinics.

Interviews took between 20 minutes to 40 minutes. Questions covered individual experiences in receiving and using implants, motives for discontinuing use, and perceptions on family planning. Provider interviews focused on individual experiences delivering family planning and implant related services. Focus groups took between 40 minutes and 75 minutes. Content of focus groups overlapped with in-depth interviews, but participants were also presented with a list of potential strategies and asked to discuss which strategies they felt would have the most impact. See Appendix B for interview guides and Appendix C for focus group guides. All interview guides were translated from English to Portuguese by a trained translator and tested with participants beforehand for clarity.

All interviews were recorded, and transcribed by the data collectors. Responses were translated from Portuguese into English. Focus groups were recorded and detailed notes were taken by three note takers. Notes were crosschecked with recordings to ensure all relevant information was captured.

**Study Sample**

Clients and providers were recruited from 4 clinics in Huambo, and 4 clinics in Luanda. A mix of phone recruitment and in-person recruitment was used at the clinics. Participants were administered an initial recruitment script, followed by a consent script. Oral consent was obtained from all participants before continuing. No identifying records were recorded to maintain confidentiality of participants.
A total of 21 in-depth interviews (7 providers, 7 former implant users, 7 current implant users) and 3 focus groups (1 of providers, 1 of former implant users, 1 of current implant users) with 6 participants each were interviewed in Huambo province. In Luanda, 24 in-depth interviews (8 providers, 8 former implant users, 8 current implant users) and 3 focus groups (1 of providers, 1 of former implant users, 1 of current implant users) with 6-7 participants each were interviewed in Luanda province.

Ethics

Ethics approval was obtained from the National Ministry of Health Ethics Committee, and the Johns Hopkins School of Public Health Institutional Review Board (JHSPH IRB, #6532). Additional approvals were obtained from the National Directorate of Public Health, Provincial Director of Health in Huambo Province, and from all facility directors.

Results

Record Extraction

A total of 266 records were collected from 8 clinics in Huambo and Luanda. Due to poor maintenance and quality of routine data, and inconsistent format of records, it was not possible to extract data on age, education, neighbourhood of residence, occupation, and parity for all records. Motive for discontinuation was the primary information extracted. For a list of all motives found, see Appendix D.

From these records, side effects, desire for pregnancy, and partner influence were the most common reasons for discontinuation. 56% of all respondents described side effects as the sole motivating factor for ending use. The most commonly cited side effects were bleeding (23%), dizziness and fainting (11%), and headaches (5%). 22% of women cited desire for pregnancy as a reason for terminating use, and 16% cited husband or partner influence.

In Huambo, a greater proportion of records indicated that desire for pregnancy was a factor for discontinuation (37%) compared to Luanda (28%). Only 3% of records indicated that the husband or partner was a factor in Huambo, whereas in Luanda, 9% of records indicated that the husband or partner was a factor.

Respondent Characteristics

A total of 45 in-depth interviews and 6 focus groups were conducted in Huambo and Luanda, across the three different respondent groups (current Jadelle implant users, formers Jadelle implant users, providers), with a total of 78 participants. Current implant users ranged between the ages of 19 and 47, with a median age of 32.5. Of current implant users, 38% were married or cohabiting with their partner, 12% were with a partner, and 46% stated that they were single. Across Huambo and Luanda, 35% of current users had started or completed middle school, 23% secondary school, and 35% post-secondary school. In Luanda, a greater proportion of women had started or
completed secondary school or post-secondary school compared to Huambo. Average age at first birth for current users was 19.3, ranging from 14 to 27, with women having an average parity of 3. Within current users, 46% had 1 or 2 children, and 38% had 3 to 4 children.

Amongst providers, the mean age across Huambo and Luanda was 45, with a minimum age of 29 and a maximum age of 63. The average number of years spent working in family planning by providers in Huambo was 6.7 years, with a minimum of 1.5 months and a maximum of 35 years. In Luanda, the average across providers was 8.7 years, with a minimum of 3.5 months and a maximum of 31 years.

Table 1: Demographic characteristics of current and former implant users in Huambo & Luanda

<table>
<thead>
<tr>
<th></th>
<th>Current Users</th>
<th></th>
<th>Former Users</th>
<th></th>
</tr>
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<tr>
<td></td>
<td>Huambo (n=12)</td>
<td>Luanda (n=14)</td>
<td>Combined (n=26)</td>
<td>Huambo (n=12)</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mean</td>
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<td>31.5</td>
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</tr>
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<td>Median</td>
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<td>32.5</td>
<td>28.5</td>
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<tr>
<td>Min</td>
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<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Max</td>
<td>38</td>
<td>47</td>
<td>47</td>
<td>46</td>
</tr>
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<td>Marital Status</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Married/Cohabiting</td>
<td>67%</td>
<td>14%</td>
<td>38%</td>
<td>33%</td>
</tr>
<tr>
<td>With Partner</td>
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<td>21%</td>
<td>12%</td>
<td>0%</td>
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<tr>
<td>Single</td>
<td>33%</td>
<td>57%</td>
<td>46%</td>
<td>67%</td>
</tr>
<tr>
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<td>0%</td>
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<td>0%</td>
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<td>Primary School</td>
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<td>7%</td>
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<tr>
<td>Middle School</td>
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<td>14%</td>
<td>35%</td>
<td>17%</td>
</tr>
<tr>
<td>Secondary School</td>
<td>17%</td>
<td>29%</td>
<td>23%</td>
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<td>Post-Secondary School</td>
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<td>Age at first birth</td>
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<td>19.75</td>
<td>19.3</td>
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<tr>
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<td>18</td>
<td>19</td>
<td>17</td>
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<tr>
<td>Min</td>
<td>14</td>
<td>15</td>
<td>14</td>
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<tr>
<td>Max</td>
<td>24</td>
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<td>25</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
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</table>
Mean 3.3  2.9  3.0  4.6  3.4  4.0
Median 3  3  3  4  3  4
Min 2  0  0  1  2  1
Max 7  6  7  13  5  13

Table 2: Demographic characteristics of family planning providers in Huambo & Luanda

<table>
<thead>
<tr>
<th># of Children</th>
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<td></td>
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<td>67%</td>
<td>25%</td>
<td>8%</td>
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<td>54%</td>
<td>23%</td>
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</tr>
<tr>
<td></td>
<td>0%</td>
<td>36%</td>
<td>40%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Factors Related to Discontinuation and Barriers to Use

Primary reasons resulting in users discontinuing use of contraceptive implants include side effects, partner and family influence, a lack of information or alternative information about implants, and desire for pregnancy. Churches and religious opposition were also cited, primarily by providers, as a barrier to use for women.

Adverse Side Effects

One of the primary reasons for discontinuation described by a majority of respondents was adverse side effects, of which include prolonged menstrual bleeding, pain at the insertion site, headaches, dizziness, and tiredness, amongst others: "Yes, recently I started feeling reactions such as weakness, headache, and bleeding that was too
long.” (Former user in Huambo). A few participants described how they were free of side effects for some time, only to begin bleeding heavily one or two years after initial insertion of the implant: “It was when after 3 years of the absence of menstruation, I started bleeding with a lot of blood clots” (Former User, Luanda). For a number of women, a lack of menstruation was viewed in a negative light, and was a cause for concern rather than a benefit: “In my case, when a woman has it inserted her period stops, and women like their periods, it is an issue because they think it may be a pregnancy” (Former User, Huambo).

Still others described negative side effects related to changes in weight. While those participants citing changes in weight primarily described weight gain as a motive for discontinuation, some providers also indicated that weight loss was a reason that some women removed implants.

It appears that side effects may also have a negative influence on day-to-day life, as indicated by one user: “Because of the headache and to avoid harming my work. I stayed at home for a long time.” (Former User, Huambo).

A handful of providers indicated that side effects may possibly be an excuse used by clients to have the implant removed, when they have alternative motives for discontinuation: “First we have to know if she is even telling the truth, first to know if she is with bleeding…” (Provider, Huambo). “Those who have inserted just because they heard from someone else, after a couple of months they come up with things, such as bleeding, just to have it removed” (Provider, Luanda).

**Partner Dissatisfaction**

Partner dissatisfaction was described by both participants and providers as a reason for discontinuing use of their contraceptive implant. Some participants described receiving their implant without informing their partner, and were required to remove it after their husband found out: “What made me take it out is that my husband did not like it, I did not put with his authorization.” (Former User, Huambo). A number of providers also indicated that they receive clients who come to the clinic without informing their partners, and as a result come back to remove the implant when their partner finds out. Others also described their husband’s desire to have another child, resulting in them removing their implant: “It was not my decision to remove my desire was to continue up until 5 years, my husband asked me to get pregnant.” (Former User, Huambo). More providers than participants cited this as an issue, which may possibly be indicative of the sensitive nature of this topic and the unwillingness of women to disclose this information. One provider in Huambo during the focus group noted that women are subject to violence from their partners if they are found to be using contraception: “Some hide the cards [chip] so their husbands won’t find out, and to prevent violence.” (Provider, Huambo). Further discussion with data collectors and project collaborators corroborated this statement.

As indicated by one provider, changes of partners may also result in the disruption of contraceptive use: “The hard point is when they find a new husband or change of partners because he wants children.” (Provider, Luanda).
Desire for Pregnancy

A small number of current and former clients interviewed stated that their desire for another child was the reason for discontinuing, or future discontinuation: “[I will remove in] 2017, to have another baby.” (Current User, Huambo). Some described their long-term family planning goals, and their intentions to return to using the implant after completing their families: “It was my decision, the reasons was only that I wanted to have another child.” (Former user, Huambo). While desire for pregnancy as a motive for discontinuation was not cited frequently during interviews or focus groups, it was the second most common reason for discontinuation seen in clinic records.

Alternative Information & Lack of Information

Numerous providers described women returning to have their implants removed due to alternative explanations and information that exist around the use of implants. Some examples of alternative explanations for implants described by patients include:

- Implants melt in the body or can move within the body on their own. “There are these taboos that say they cannot have children, the time a client requested the removal because they said that the chip [implant] melts in the body” (Provider, Huambo)
- The implant can cause death: “They say that the Jadelle moves in the body and when it comes to the head the person dies with thrombosis” (Provider, Huambo)
- Using an implant will result in permanent infertility: “Because some women think that they will be unable to have children after having an implant for five years” (Provider, Huambo)
- Adolescents cannot use implants or contraception: “The patients they say that adolescents should not do [planning]…they say that after they have difficulties getting pregnant” (Provider, Luanda Focus Group).

Some providers in the focus group from Luanda also indicated the role of doctors in causing patients to discontinue use of their contraceptive implant. Providers felt that doctors did not have information, and that doctors directly tell patients to remove their implant.

Other Barriers

A number of other barriers were cited by providers and clients throughout the study, either during formal data collection, or anecdotaly outside of interviews and focus groups. Religion and opposition from the church appears to be a deterrent or a motive for discontinuing use. In some churches, the use of implants is described as a sin, and women are discouraged from using them: “For some [it is] religion and work of the demon” (Provider, Luanda). While this was only mentioned by one provider during interviews, this topic came up numerous times during discussion with data collectors, providers, and individuals within the community.

As well, a number of participants indicated that 5-years was too long a duration to use the implant, and that some preferred a shorter duration of use: “…others because they
do not want the method for a long time, they say that they would like the implants for only two years” (Provider, Luanda).

Other sources of influence identified include friends, families, as well as healthcare providers. According to one provider, health workers who lack information on implants may also be a reason for discontinuation or barrier to use: “Influenced by other people, in the streets and often by some health workers who do not have clear information about the implants” (Provider, Huambo).

Factors Supporting Long-Term Use & Acceptance

Across both current and former users, there were numerous factors that supported the adoption and ongoing use of Jadelle implants. Primarily, these include prevention of pregnancy, convenience and duration of use of Jadelle implants, spacing of births, providing women with the ability to plan their lives and minimize impact of childbirth on their studies and work. Some women also cited the positive side effects they experienced from using Jadelle implants, and that they were able to maintain normal sexual relations.

Prevention of Pregnancy & Birth Spacing

Preventing unwanted pregnancies was listed by a majority of both former and current users of Jadelle implants as a primary motive for adopting and using the method: “…these two years that I was with the chip it prevented me from pregnancy, if I did not use I would have two babies in my arms” (Former User, Huambo). Some respondents identified themselves as being very fertile, and that the implant was subsequently a way to prevent being pregnant constantly or having too many children: “I am very fertile, each year I had a child, it is what led me to use the chip [implant]” (Former User, Huambo).

Some participants specifically cited the benefit of birth spacing as a reason for using the implant. Spacing was indicated as being beneficial not only because of other children women may have, but also for work and study purposes: “Why did I use? Because I wanted to give it more space because of planning to finish my studies” (Former User, Huambo).

Convenience & Duration of Use

Participants who are currently using an implant cited convenience and duration of use as a reason that they like using their implants. Participants discussed the fact that they did not have to worry about remembering to take a pill every day: “The pill works by taking them every day and the person can forget; when I heard about the implant I asked to have it inserted” (Former User, Huambo). Participants also described the convenience of not having to return to the health center multiple times, as is needed for Depo-Provera injections: “With the implant, there is no need to return constantly to the hospital, and it is a long-term method” (Current User, Luanda). Long-term duration of use was also indicated by a number of participants as a benefit of using Jadelle implants, relative to other methods: “Because of its long lifespan, it is very effective compared to the pills that I have used in the past” (Former User, Huambo).
Planning: Work & Study

The use of implants as a way to prevent disruption to studies and work was described by a number of participants. One provider noted that youth and adolescents are using implants so they can pursue and complete their studies. Some participants who already have children described their wish to continue on and still complete their education: “I do not want to get pregnant again! I intend to continue to complete my studies” (Current User, Luanda).

Positive Side Effects & Sexual Relations

In addition, other factors influencing uptake, acceptance, and long-term use included positive side effects, and the ability for users to maintain regular sexual relations. Some participants described how they enjoyed not having regular menstruation. “I felt well not menstruating and did not have to return to the center often” (Former User, Luanda). Other users described how they were happy with the fact that they had gained some weight: “I like a lot. I like because before using the implant I was a little thin and now I gained a little and I am better that way” (Current User, Luanda). Primarily current users described how they enjoyed being able to have sex normally and that it has not affected their sex life: “I am enjoying it because I have it helping me I can have sex normally” (Current User, Luanda).

Perceptions on Family Planning

In general, participants viewed family planning in a highly positive light, and recognized the benefits that family planning could provide themselves, their families, and the community at large.

Prevention of Pregnancy and Birth Spacing

Amongst both current and former users, almost all held favorable views of family planning and acknowledged its importance. Participants cited the benefits of both implants and family planning in avoiding unwanted pregnancies, spacing children, and helping women and couples in planning life: “It is very important because it helps in the spacing of children, protects against some diseases and helps in resting the womb to be ready for another pregnancy” (Former User in Huambo).

Health & Wellbeing Benefits

In addition to preventing pregnancy and birth spacing, numerous participants also described the benefits of family planning to the health and wellbeing of mothers and children. In particular, participants recognized the benefits that family planning can have on the health of children: “It is important because there are women who get pregnant easily, and after it affects the baby that she already has in her lap and you can gather that malnutrition is the lack of family planning” (Former User, Huambo). As well, there is
recognition that pregnancy causes risk to mothers, and that family planning can help to mitigate some of this risk: “To avoid risk the women make fewer children…” (Former User, Huambo).

Beyond the health of mother and baby, participants described the benefits of family planning to the family as a whole, with long-term implications for children: “It helps to space the pregnancies [and] that the child has the right to school. It is very good” (Former User, Luanda). One former user in Huambo described family planning as a way for her to protect her family and home and to ensure that they have a good future: “It is an important process in the life of a mother to prevent unwanted pregnancies and by the number of children to care conditionally to have a future that they grow well, I need to protect the home and family and children and spouse” (Former User, Huambo).

**Planning & Life Conditions**

Across both former and current users, participants described the idea of life planning and organizing life, and that couples should control the number of children they have: “It is the most important to take the decision of how many children you want and to schedule life” (Former User, Luanda).

In addition, a few participants made reference to the current economic situation in Angola, the difficulties faced as a result of the current instability, and cost of living/raising a family. Family planning is seen by participants as a way to manage these difficulties in light of these challenges: “It is important to plan better in the organizing of the family, education of the children and because of the economic situation in the country” (Former User, Huambo).

**Alternative Information on Family Planning**

While respondents provided highly positive perceptions on family planning, providers indicated that there are those in the community who perceive family planning in a negative light. Providers in both Huambo and Luanda described how there is a lack of information in communities and about family planning, and also incorrect information around family planning. Religion also appears to affect the perception of family planning within communities: “Those who still say that I will give birth to all the children that God gives me” (Provider, Luanda). One provider described that in rural areas and in villages, there is a lack of planning and consideration of how children will be provided for.

**Strategies to Address Motives for Discontinuation and Barriers to Use**

A number of strategies were discussed with participants on how best to address the challenges and barriers that they face in using contraceptive implants. See Appendix D for all strategies discussed. Of these, three were identified by participants as possibly having the greatest amount of impact.

**Increased Dissemination of Information**
The majority of respondents listed education and awareness as a way to address discontinuation and barriers to use. Participants suggested that more lectures and public campaigns should be conducted within the community, particularly in schools, markets, churches, and other public spaces: “Lectures in schools, businesses, markets, churches. More lectures in schools, workplaces where women are the majority, churches” (Provider, Huambo). Other channels to explore include using the radio and television as a way to provide information to the general public and increase awareness overall: “They have to do more awareness for them to even accept because if there is no awareness they do not accept” (Former User, Huambo). Delivering pamphlets was also listed as a possible way to spread information and awareness to the population.

Other methods of disseminating information mentioned by participants include hearing from both current and former users on their experiences using the implant. Participants felt that this could help to dispel myths, stigma, and false information around contraceptive implants, and that hearing from other women like themselves would help them to make a more informed decision. One provider also suggested that youth should be encouraged to use the internet to learn more about family planning and implants.

Couples Counselling and Male Targeted Counselling

Both couples counseling and male targeted counseling were identified as possible strategies to mitigate discontinuation and reduce barriers to long term use, particularly amongst focus group respondents in Huambo. Participants indicated that male targeted counseling would be beneficial, because “many husbands do not support their wives, for lack of knowledge”, and that “the men they don’t see the benefits of the women” (Current Users, Focus Group in Huambo). Similarly, couples counseling was seen as a possible strategy to address discontinuation related to partner disapproval and dissatisfaction: “That couples must agree that couples who went together to the family planning services are to have success in the use of the method” (Current User, Luanda).

Amongst the participants that did discuss the role of men in family planning, there was the general sense that men were not supportive or understanding of the consequences for women: “It would be good if women could rely more on family planning, because men just do it, they don’t care” (Former Users, Focus Group in Huambo).

Provider Training

Both clients and providers felt that increasing both the number of trained providers, as well as improving the quality of the training would be necessary to improve uptake and long-term use of implants. Some clients recalled that they encountered unexpected side effects that they were not counseled on at the clinic: “I felt a lot of headaches and the menstrual period did not appear. I did not know this could happen to me, I was not informed of the consequences that could appear” (Former User, Huambo). Others indicated that providers need to provide better quality of counseling on side effects to clients: “Service manners, the technicians do not always have patience to explain well the side effects…” (Current User, Luanda). Supervision was also described, particularly by providers as being necessary to improve service delivery: “Do more
supervisory visits and training for family planning services to create more encouragement to providers” (Provider, Huambo).

**Improving Service Delivery**

Provision of services was noted to be an area for improvement. A number of participants, in particularly providers, indicated that more family planning clinics should be opened, especially in underserved areas outside of the city center: “Open more rooms with the family planning service, such as in the municipality of Viana” (Former User, Luanda). Others highlighted the fact that supply stock-outs posed as a challenge to receiving care, or for providers to deliver care. Improving the supply chain of Jadelle implants, amongst other contraceptive methods was identified as a way to increase demand in clinics: “Prevent stock outs of methods because the demand decreases when I tell them to go and buy instead of having the methods available at the health facility” (Provider, Huambo).

**Discussion & Recommendations**

This study adds to the limited available literature of family planning and contraceptive use in Angola. Much of the findings from this study are in line with existing literature around modern contraceptive/implant use and discontinuation in similar settings where fertility rates continue to be high. In both Huambo and Luanda, a lack of awareness and information around contraceptive implants, cultural context, and gender roles/imbalances in power have all contributed to creating barriers toward long-term use and acceptance of contraceptive implants.

Although side-effects were cited by the majority of the former users as the primary motive for discontinuation, it is clear that there are other contextual factors that contribute to this issue as well. While it is unclear from this study the degree that partner influence results in discontinuation, previous studies in Luanda have showed that husband support and approval was found to be significantly associated with modern contraceptive use. After adjusting for various socio-demographic variables, the authors found that women who felt that they had the approval of their husband to use contraceptives were 2.1 times more likely to do so. This is also in line with existing literature on modern contraceptive use in general, where husband support is found to significantly impact women’s abilities to access and use family planning methods.

Specific to the situation in Angola, a study by Advance Africa found that power imbalances between males and females can lead to unwanted pregnancy, as women feel that if they do not bear their husband children, they will leave them for another women. It is interesting to note that some providers suggested that side effects was used as an excuse from women to remove their implants, when in fact it may be for other reasons that the client does not want to disclose. Addressing gender issues may therefore be an important area of focus for future programs and for incorporation into health programs.

An overall lack of information and availability of alternative information on implants and family planning appears to be a barrier to adoption and use. This supports existing studies conducted on both contraceptive implants as well as other long-term contraceptive methods. In Ghana, lack of IUD specific knowledge was identified as a
barrier to adoption of the method. Similarly in Kenya, a study conducted amongst both HIV infected and uninfected women in the post-partum period found that prior knowledge to implants was significantly associated with uptake. And specific to long-term use and acceptance, a study conducted amongst low-income women in Texas found that acceptors of implants were less likely than non-acceptors to associate long-term health problems for both themselves and future babies with the implant.

Recommendations and strategies for how to best address the identified barriers can subsequently be split into three categories: provider oriented, program oriented, and community/client oriented. Provider and program oriented strategies may be the most feasible and effective, given current time constraints and resource limitations faced by the program in Angola.

Provider Oriented Strategies

Around the world, quality of care and service delivery in family planning has been linked to the uptake, use, and acceptance of contraception. In particular improving knowledge of providers as well as quality of counselling have been found in other studies as being one of the most effective ways of preventing implant discontinuation as a result of side effects, as well as improving uptake and use. To this end, increased and refresher training and supervision are common methods that have been deployed to improve quality of care. Beyond simply increasing provider knowledge and skills however, the nature of the care and counseling delivered has also been found to impact acceptance and use of family planning methods. Within the traditional paradigm of delivering family planning services, the decision has tended to be provider oriented, where the provider makes the decision that they feel is best for the client. A reproductive rights based trend toward informed choice however has seen the exact opposite, where clients are informed of their options and left to make a decision for themselves. The concept of client-centered counselling, promoted by the WHO, bridges the gap between these two extremes for a mode of counselling that allows the decision-making process to be shared by provider and client. A study in Egypt found that using client-centered counselling improved both client satisfaction as well as continued use. Similarly, a study in Indonesia found that clients made a valuable contribution when participating in the decision-making process, accounting for provider weaknesses around interpersonal skills.

Structured counselling and the use of decision-making tools have been suggested as a way to help providers and clients in coming to a shared agreement. The WHO has developed a decision-making tool consisting of a flip chart detailing evidence-based recommendations around available contraception types. The tool consists of a provider page and a client page, where the client page prompts clients to ask key questions, while the provider page provides recommendations on how to respond, words to use, and relevant information. Evaluation of the tool in Nicaragua found that use of the tool had a positive impact on both providers and clients. Providers were evaluated on a five-point scale based on 13 key decision-making behaviours, and after the intervention, scores were found to increase eight points. Clients were evaluated using the same scale, and while clients saw a smaller increase, they were found to articulate their needs and individual situations more clearly. In particular, continuing clients were found to more
clearly indicate whether they wished to continue with their current method, or to switch. While impact on the client was lesser than that of the provider, it may be beneficial to consider the use of a decision-making tool in the context of Angola to assist providers, in conjunction with additional provider-oriented interventions. This may take the form of the WHO decision-making tool, with appropriate modification to the Angolan context, or other tools such as a standard checklist of items that providers and clients must both review and sign-off on, embedded into the client form.

Finally, providers should be trained to not only counsel clients through the initiation process, but also in managing ongoing use and addressing side effects or other issues that may arise. Rather than defaulting to discontinuation, providers should be prepared to identify alternative methods of managing side effects when possible. Tools such as structured decision-making algorithms may be developed, or existing ones modified, to support providers in this.

Program Oriented Strategies

Program specific strategies for consideration should include methods of improving dissemination of information and education around contraceptive implants to clients. A Cochrane Systematic review of seven studies identified two main methods of providing education: multiple education sessions, and single sessions utilizing educational material or media. The review found that while there was some evidence supporting the use of audiovisual materials and charts in increasing knowledge, there was limited effect on choice of method and continuing use. As well, the review found that quality of evidence to be low, and four of the seven studies were conducted in the USA, limiting their usefulness to the specific context of Angola. Adoption of visual tools should nevertheless be considered in delivering education within communities, given the low rates of literacy amongst the Angolan population. Further research in Angola is necessary to determine what mode of information delivery may be the most effective, and whether different methods are more effective for certain target populations (youth, women, men, etc).

Community Oriented Strategies

Community oriented strategies should address broader challenges that act as barriers to family planning and contraceptive use. In particular, religious opposition, gender power imbalances, and general perceptions on ideal family size are potential areas for focus. While such work may be beyond the scope of the current program, consideration should be made for how the program can try to address some of these issues, such as working with church leaders to build partnerships and adapt messages around contraception to align with key principles and values in the church.

Method Mix in Angola

An important aspect of family planning that has not yet been addressed in Angola is the mix of family planning methods available to women. A 2002 MICs survey
indicated that while only 6% of women of reproductive age surveyed were using some form of contraception, of these women, 37% were using contraceptive pills, 26% injections, 18% abstinence, 6.7% IUD, 5% condoms, and 5% lactational amenorrhea. This appears to follow somewhat similar patterns to a number of other sub-Saharan African countries, in particular Mozambique and Guinea. While it is likely that such figures have changed in the period of time since the survey was conducted, findings from data collection indicate that pills continue to be the first choice for many women. It is currently unknown what proportion of women of reproductive age in Angola use contraceptive implants compared to contraceptive pills.

The framework provided by Sullivan et al. outlines five categories of potential reasons for contraceptive method skew: policies and programmes provider bias, history, properties of the methods, and client characteristics. Using this framework, there are a number of factors that may explain a possible preference for the pill compared to other methods within the Angolan context. The first is ease of use, and the fact that providers do not need to be specially trained in insertion or removal. The current program in Angola implemented by the Ministry of Health and Jhpiego has focused on Huambo and Luanda provinces; trained providers able to deliver implants and IUDs are hence limited to these geographic regions. Given the severe lack of human resources in Angola, pills may be easier to deliver to women compared to long-acting methods such as the IUD and implant. Second, methods such as IUD and implants may also be less accessible to women, particularly those in rural areas, with providers mentioning supply stock-outs as a challenge. Given that the war ended in 2002, availability of contraception may have been limited until recently. Third, awareness and knowledge of contraception may still be limited, particularly outside of major urban areas. Fourth, anecdotal evidence appears to indicate that as a whole, there is still a preference for large families in Angola. Project staff have indicated that while the government of Angola has in principle committed to reducing fertility, they have continued to adopt a pronatalist stance. Coupled with religious opposition, this may partially explain continued low rates of usage of modern contraception and ongoing use of traditional methods.

Further research is needed to determine the current method mix of Angola and client preference.

Limitations

Our study has a number of limitations to it. First, the paucity of reliable country-wide data on family planning, method mix, and discontinuation rates make it difficult to triangulate qualitative findings and make reliable conclusions. Second, findings are limited to the urban areas of Luanda and Huambo. While there is a high concentration of the Angolan population in these two regions, our findings do not cover the remainder of the country, which are in general less developed than Luanda and Huambo. Third, challenges around data collection may have affected the overall quality of data collected. In order to gain buy-in from Ministry of Health officials and facility managers, data collectors were nurses that had familiarity with the selected clinics. This may have introduced biases to the data, despite training delivered around the ethics of human research and qualitative methodology.
Conclusion

Increasing the proportion of women in Angola of reproductive age who use family planning and modern contraceptive methods such as implants is imperative to reducing the high rates of both child and maternal mortality. Currently, women in Angola who manage to obtain access to contraceptive implants are faced with numerous barriers in maintaining long-term use. While a large proportion of these women cite negative side effects associated with the contraceptive implant itself as the primary reasons for discontinuation, a host of other factors further prevent women from maintaining long-term use and effectively addressing these side effects. These include socio-cultural reasons, gender-power imbalances, and health systems related challenges, particularly around quality of service and provider knowledge. Of the strategies discussed by participants that may be feasible, both provider and program-oriented strategies may address a number of the issues identified through this research study. In particular, improved training of providers to deliver high quality counselling at both initiation of the implant as well as throughout use is recommended, in addition to the development/use of a structured decision-making tool that includes both a provider and client component. As well, expanding education and awareness campaigns should be explored, in particular within communities in order to maximize the population reached. Various avenues of information delivery should be explored, including that of television and radio ads, and the use of existing users to provide testimonials to women.

As Angola continues to make gains in improving the overall health of their population since the end of civil war in 2002, it will be imperative that the issue of family planning is addressed. Long-term contraceptive methods such as Jadelle implants have been shown in clinical trials to be both safe and highly effective in preventing pregnancy, while also being cost effective. Improving acceptance of implants and maintaining long-term use will not only improve the health status of women and children in Angola, but over time the well-being of the population at large.
Works Cited


## Appendix A: Comparison & Characteristics of Available Implant Types

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Manufacturer</th>
<th>Contraceptive Rods</th>
<th>Drug Composition</th>
<th>Duration of Use (years)</th>
<th>Cost per Unit (USD)</th>
<th>Notes</th>
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<tr>
<td>Jadelle (Norplant-2)</td>
<td>Bayer Healthcare</td>
<td>2</td>
<td>Levonorgestrel</td>
<td>5</td>
<td>8.50</td>
<td>Replaced Norplant</td>
</tr>
<tr>
<td>Implanon</td>
<td>Merck/MSD</td>
<td>1</td>
<td>Etonogestrel</td>
<td>3</td>
<td>8.50</td>
<td></td>
</tr>
<tr>
<td>Implanon NXT (Nexplanon)</td>
<td>Merck/MSD</td>
<td>1</td>
<td>Etonogestrel</td>
<td>3</td>
<td>8.50</td>
<td>Will replace Implanon</td>
</tr>
<tr>
<td>Sino-Implant</td>
<td>Shanghai Dahua Pharmaceuticals Co., Ltd</td>
<td>2</td>
<td>Leveonorgestrel</td>
<td>4</td>
<td>8.00</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B: In-Depth Interview Guides

Current Implant Users

Basic Demographic Questions
1. What is your age?
2. What is your marital status?
   a. Married
   b. Single
   c. Divorced
   d. Widowed
   e. Single but living with partner
3. What is your occupation?
4. What is your highest level of education?
5. How old were you when you had your first pregnancy?
6. How many pregnancies have you had?
7. How many children do you currently have?

Family Planning Specific Questions
8. What kind of contraceptives (such as injection or oral contraceptives) have you used in the past?
9. Are you currently using an implant?
10. How long have you had your implant for?
11. Can you describe to me the reason(s) that you chose to get an implant?
   a. Where did you hear about the implant?
   b. Were you given any counseling on the use of an implant?
      i. If YES, what kind of information did you get during counseling?
      Probe: Can you explain that in more detail?
12. Was it your own decision to get an implant?
   a. Was your partner involved in the decision?
      i. If yes, how so?
      ii. What kind of knowledge did your partner have about the implant?
   b. Did your friends, or other family members, influence your decision?
      i. If yes, how so?
      ii. What kind of information did they have and/or give you?
13. Did you have to pay any money for your implant?
   a. If YES, how much?
14. Can you describe the things that you like about having the implant that you use?
    Probe: Can you explain that to me in more detail?
15. Is there anything that you dislike about using your implant?
    Probe: Can you explain that to me in more detail?
16. Would you consider having your implant removed in the future?
    Probe: Why, or why not?

Perceptions on Family Planning & Ideal Family Size
17. What are your thoughts on family planning?
   a. Is it important? Why or why not?
18. What are your partner’s perceptions on family planning?
19. What do you think is the ideal family size?
    Probe: Can you explain why?
       a. How many children would you like to have?
       b. How many children would your partner like to have?
20. What changes could be made to the current family planning services available to improve accessibility?
21. What changes could be made to the current delivery of implants to improve accessibility and remove barriers to long-term use?

22. Is there anything else regarding your experience with implants or family planning that you would like to share with me?

Former Implant Users

Basic Demographic Questions
1. What is your age?
2. What is your marital status?
   a. Married
   b. Single
   c. Divorced
   d. Widowed
   e. Single but living with partner
3. What is your occupation?
4. What is your highest level of education?
5. How old were you when you had your first pregnancy?
6. How many pregnancies have you had?
7. How many children do you currently have?

Family Planning Specific Questions
8. Have you used any other kind of contraception (such as injection or oral contraceptives) in the past?
9. When did you first receive your implant?
10. How long did you have your implant for before having it removed?
11. Can you describe to me the reason(s) that you chose to get an implant?
   a. Where did you hear about the implant?
   b. Were you given any counseling on the use of an implant?
      i. If YES, what kind of information did you get during counseling?
         Probe: Can you explain that in more detail?
12. Was it your own decision to get an implant?
   a. Was your partner involved in the decision?
      i. If yes, how so?
      ii. What kind of knowledge did your partner have about the implant?
   b. Did your friends, or other family members, influence your decision?
      i. If yes, how so?
      ii. What kind of information did they have and/or give you?
13. Did you have to pay any money for your implant?
   a. If YES, how much?
14. Can you describe the things that you liked about having the implant that you use?
   Probe: Can you explain that to me in more detail?
15. Is there anything that you disliked about using your implant?
   Probe: Can you explain that to me in more detail?
   Can you give me an example?
   Were you aware that this could happen?
16. Why did you choose to have your implant removed?
   a. Was this your own decision to have it removed?
      Probe: Can you explain this in more detail?
17. Where did you go to have your implant removed?
18. Did you have to pay money to have your implant removed?
19. Can you describe your experience in having your implant removed?
   Probe: Was it a positive experience? Or negative? Why?
20. Are you satisfied with your decision to have your implant removed?
   a. If no, why?
21. Would you in the future ever consider getting another implant?
   a. Is this a decision that you would discuss with your partner?
   Probe: Why, or why not?
Perceptions on Family Planning & Ideal Family Size
22. What are your thoughts on family planning?
   a. Is it important? Why or why not?
23. What are your partner’s perceptions on family planning?
24. What do you think is the ideal family size?
   Probe: Can you explain why?
   a. How many children would you like to have?
   b. How many children would your partner like to have?
25. What changes could be made to the current available family planning services to improve accessibility?
   a. What would need to change in order for you to seek further family planning services?
26. What changes could be made to the current delivery of implants to improve accessibility and remove barriers to long-term use?
   a. What would need to change in order for you to use implants again?
27. Is there anything else regarding your experience with implants or family planning that you would like to share with me?

Providers

Basic Demographic Questions
1. What is your age?
2. What is your position or job title?
   a. And how long have you worked in this role?
3. What is your highest level of education?
4. How long have you worked at this clinic, or in this region for?
Family Planning Specific Questions
5. What is your primary role or duties relating to the delivery of family planning services?
6. Can you describe what your experience has been in delivering these services?
   a. Has demand increased or decreased since you started delivering these services?
      Probe: Why do you think this has been the case?
   b. What types of contraception do women ask for?
      Probe: Why do you think women ask for these kinds of contraception?
   c. What are the primary reasons that women choose to get an implant?
   d. Beyond these primary motives, do you think there are other influencing factors that may affect why women choose to get implants?
7. Can you describe the process of giving patients an implant?
   a. Do you give patients counseling?
      i. If YES, what kind of counseling do you give them?
   b. What kind of information do patients ask for?
8. Can you describe your experience with women returning to the clinic to have their implant removed?
   a. When did women start coming to the clinic to have their implants removed?
   b. What are the primary reasons that women are choosing to have their implants removed?
   c. Beyond these primary motives, do you think there are other influencing factors that may affect why women remove their implants?
9. What do you think could be changed to the current family planning program to increase demand and utilization, and prevent women from returning to have their implants removed?

Perceptions on Family Planning & Ideal Family Size

10. What are community level perceptions on family planning?
   a. What is the ideal family size in this community?
   b. Have these perceptions changed over time?
      Probe: Can you explain why these changes have taken place?

11. Within families in this community, who makes the decision on family planning?

12. What do you think could be done to increase awareness about family planning in this community?

13. Do you have any other thoughts that you would like to share regarding family planning services and implants that we have not yet talked about?
Appendix C: Focus Group Guides

Current Implant Users

Experience with Current Family Planning Program
1. Let's start by talking about your general experience with receiving an implant. Why did you choose to get an implant?
   a. Where did you learn about implants?
   b. Was there anyone else (friends, family, partner) who influenced your decision to get an implant?
      Probe: How did they influence your decision?
   c. Did you receive counseling when you got your implant? Do you feel like you had enough information before receiving your implant?
2. What are some things that you like about using an implant?
3. What are some things that you dislike about using an implant?
4. After receiving your implant, were you happy with your decision to do so?
   Probe: Why, or why not?
5. How long do you plan on using your implant for?
   a. For what reasons would you discontinue use of your implant?
6. Would you tell other women to use an implant, based on your experience?
   Probe: Why, or why not?

Proposed Changes to Family Planning Intervention
7. If any of the interventions described were to be implemented, would it change your current decision to use implants?
8. In what ways do you think these interventions would make it easier for you, or other women, to access and use implants?
   a. Which intervention would be most beneficial?
      Probe: Why do you think that?
   b. Which intervention would be least beneficial?
      Probe: Why do you think that?
9. In general, if any of these interventions were implemented, do you think more or less women would utilize implants?
   Probe: Can you explain why you think that would be the case?
10. In your opinion, other than the interventions that have been described, what other changes could be made to the family planning program to improve the use of implants?

Former Implant Users

Experience with Current Family Planning Program
1. Let's start by talking about your general experience with receiving an implant. Why did you choose to get an implant?
   a. Where did you learn about implants?
   b. Was there anyone else (friends, family, partner) who influenced your decision to get an implant?
      Probe: How did they influence your decision?
   c. Did you receive counseling when you got your implant? Do you feel like you had enough information before receiving your implant?
2. What were some things that you liked about using an implant?
3. What were some things that you disliked, or found challenging about using an implant?
4. After receiving your implant, were you happy with your decision to do so?
   Probe: Why, or why not?
5. For what reasons did you choose to have your implant removed?
a. Was there anyone else (friends, family, partner) who influenced your decision to have your implant removed?
   Probe: How did they influence your decision?
   b. After removing your implant, were you happy with your decision to do so?

6. Would you in the future seek more family planning services or get another implant if the current program stays the same?

Proposed Changes to Family Planning Intervention

7. If any of the interventions described were to be implemented, would you consider receiving an implant again?
   Probe: Why, or why not?

8. In what ways do you think these interventions would make it easier for you, or other women, to access and use an implant?
   a. Which intervention would be most beneficial?
      Probe: Why do you think that?
   b. Which intervention would be least beneficial?
      Probe: Why do you think that?

9. In general, if any of these interventions were implemented, do you think more or less women would utilize implants?
   Probe: Can you explain why you think that would be the case?

10. In your opinion, other than the interventions that have been described, what other changes could be made to the family planning program to improve the use of implants?

Providers

Experience with Current Family Planning Program

1. Can you describe in general your experiences in delivering family planning services?
   a. Is there a high demand for family planning services?
   b. What type of services or information do women most commonly seek?
   c. What are some of the most common misperceptions about family planning?

2. Has demand for family planning changed in the past five years?
   Probe: Can you describe these changes in more detail?
   Why do you think this has been the case?

3. Can you describe your experience with providing implant related services to women?
   a. Has demand for implants changed in the past 5 years?
   b. Can you describe your experience with women returning to have their implants removed?

4. Based on the current program, do you think that there are barriers for women seeking to get implants?
   a. Are there barriers to women seeking and receiving implants?
      Probe: What kind of barriers do you think exist, and why?

5. What do you think are the main reasons that women choose not to seek implants?
   Probe: Can you explain that in further detail?

Proposed Changes to Family Planning Intervention

6. If any of the interventions that were described were to be implemented, how do you think this would change the demand for family planning services?
   a. Which of the described interventions do you think would be most effective?
      Probe: Why do you think this would change demand?

7. Do you think that any of the interventions would increase or decrease barriers to family planning for women?
   Probe: Can you describe how it would increase or decrease barriers?
   Can you give a specific example?
8. Do you think that these interventions address the primary reasons that women choose not to receive family planning services? If yes, which intervention and how?
   a. If no, what other changes could be made to address these barriers?

9. Do you think that implementing any of these interventions would increase or decrease demand for implants?
   Probe: Why do you think this would change the demand for implants?

10. Do you think that any of these interventions would address or remove the barriers that women face in using implants?
    a. If no, what other interventions could be made to address these barriers?

11. What other interventions could be made to increase demand for family planning services and use of implants in women?
Appendix D: Strategies discussed during focus groups

Potential Strategies to Address Barriers to Use

- Increased and improved counseling of side effects, particularly of bleeding, and when it is that women can expect that side effects will diminish. In addition, to have voluntary follow-up appointments for patients at 1 month, 3 months, 6 months, 1 year, and 2 years
- Increase of public health campaigns and lectures about implants and other contraceptive methods in hospitals and public spaces (markets, posters, other media) to disseminate information and reduce inaccurate information
- Couples counseling to obtain support of the husband or partner
- Counseling targeted toward men
- Improve cooperation and dissemination of information through churches
- Women’s groups to share their experiences and for support
### Appendix E: Primary motives for discontinuation (abstracted from clinic records)

<table>
<thead>
<tr>
<th>Motivo (Portuguese)</th>
<th>Motive (English Translation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acne</td>
<td>Acne</td>
</tr>
<tr>
<td>Alergia</td>
<td>Allergy</td>
</tr>
<tr>
<td>Astenia</td>
<td>Tiredness</td>
</tr>
<tr>
<td>Astenia nos Membros Inferior</td>
<td>Lack of strength in lower body</td>
</tr>
<tr>
<td>Aumento de Peso</td>
<td>Weight gain</td>
</tr>
<tr>
<td>Baixia de desejo sexual</td>
<td>Low sex drive</td>
</tr>
<tr>
<td>Caimbra</td>
<td>Cramps</td>
</tr>
<tr>
<td>Cansaço</td>
<td>Tiredness</td>
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<tr>
<td>Cefaleias</td>
<td>Headache</td>
</tr>
<tr>
<td>Cistos</td>
<td>Cysts</td>
</tr>
<tr>
<td>Complicações</td>
<td>Complications</td>
</tr>
<tr>
<td>Desconforto com o Metodo</td>
<td>Discomfort with the implant</td>
</tr>
<tr>
<td>Desmaio</td>
<td>Faint</td>
</tr>
<tr>
<td>Dor de Baixo Ventre</td>
<td>Pain in the lower abdomen</td>
</tr>
<tr>
<td>Dor e Inflamação no Local</td>
<td>Localized pain and inflammation</td>
</tr>
<tr>
<td>Dor no Braço a Aplicação</td>
<td>Arm pain/localized pain from implant</td>
</tr>
<tr>
<td>Dores de Cabeça</td>
<td>Headache</td>
</tr>
<tr>
<td>Dores de Cabeça Intensa</td>
<td>Severe headaches</td>
</tr>
<tr>
<td>Dores Fortes nos Seios</td>
<td>Severe breast pain</td>
</tr>
<tr>
<td>Dormência no Braço</td>
<td>Numbness in the arm</td>
</tr>
<tr>
<td>Emagrecimento</td>
<td>Weight loss/emaciation</td>
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<tr>
<td>Engravide</td>
<td>To become pregnant</td>
</tr>
<tr>
<td>Enjôos</td>
<td>Sickness</td>
</tr>
<tr>
<td>Enxaqueca</td>
<td>Migraine</td>
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<tr>
<td>Estômago</td>
<td>Stomach (pain)</td>
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<tr>
<td>Gravidez</td>
<td>Became pregnant while using implant</td>
</tr>
<tr>
<td>Hemorragia</td>
<td>Bleeding</td>
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<tr>
<td>Hipertensão</td>
<td>Hypertension</td>
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<tr>
<td>Inflamação</td>
<td>Inflammation</td>
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<tr>
<td>Insuficiência Venosa Crônica</td>
<td>Chronic venous insufficiency</td>
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<tr>
<td>Marido</td>
<td>Husband (does not like)</td>
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<tr>
<td>Mau Estado Geral</td>
<td>Feeling unwell</td>
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<tr>
<td>Metrorragia</td>
<td>Irregular uterine bleeding</td>
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<td>Muda de Método</td>
<td>Change of contraceptive method</td>
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<td>Palpitacao no Coracao</td>
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<td>Weight loss</td>
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<td>Vaginal itching</td>
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<td>Hair loss</td>
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<td>Ovarian cysts</td>
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<tr>
<td>Sangramento</td>
<td>Bleeding</td>
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<tr>
<td>Tem um novo namorado e quer engravidar</td>
<td>New boyfriend and wants to get pregnant</td>
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<tr>
<td>Terminado</td>
<td>Completion of 5 year limit</td>
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<tr>
<td>Tontura</td>
<td>Dizziness</td>
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<tr>
<td>Transfusão</td>
<td>Transfusion</td>
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<tr>
<td>Varizes</td>
<td>Varicose veins</td>
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<tr>
<td>Vertigens</td>
<td>Dizziness</td>
</tr>
<tr>
<td>Vômitos</td>
<td>Vomiting</td>
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