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Contraceptive Implant Discontinuation in Huambo and Luanda, Angola: A Qualitative Exploration of Motives

Mary Qiu[1] · Jhony Juarez[2] · Adelaide de Carvalho[3] · Frederico Joao Carlos Juliana[4] · Lucas Nhamba[5] · Isilda Neves[3] · Vita Vemba[6] · Ligia Alves[7] · Abreu Pecamena[8] · Peter Winch[1]

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Abstract *Introduction* The Government of Angola is engaged in ongoing efforts to increase access to contraceptives, in particular contraceptive implants (CIs). Discontinuation of CIs, however, has been identified as being a challenge to this work, hindering the improvement of contraceptive prevalence, and in turn, maternal and child health. The objective of this study was to understand motives for contraceptive implant discontinuation in Luanda and Huambo, Angola. *Methods* We conducted 45 in-depth interviews and six focus groups amongst former and current contraceptive implant clients and family planning nurses in eight clinics across the provinces of Huambo and Luanda. Data collectors transcribed and translated key information from Portuguese into English. We used a combined deductive/inductive approach to code and analyze data. *Results* Participants described adverse side effects, desire for pregnancy, partner dissatisfaction, quality of care, alternative or lack of information, and religion as motives for discontinuation. Adverse side effects, including prolonged bleeding, amenorrhea, and headaches were most commonly cited by both clients and providers. *Discussion* Motives for discontinuation reflect existing findings from other studies in similar settings, in particular the influence of adverse side effects and desire for pregnancy as motivating factors. We contextualize these findings in the Angolan setting to tease out the relationship between cultural norms of ideal family size and the perceived role of women in regards to fertility and child-bearing. We suggest that programs enter into dialog with communities to address these concerns, rather than working exclusively on improving service delivery and quality.

✉ Mary Qiu
mary.qiu@jhu.edu

Jhony Juarez
Jhony.Juarez@jhpiego.org

Adelaide de Carvalho
laide67@hotmail.com

Frederico Joao Carlos Juliana
drfredericojuliana@yahoo.es

Lucas Nhamba
nhambalu@yahoo.com.br

Isilda Neves
isildaneves28@yahoo.es

Vita Vemba
lvitavemba@msh.org

Ligia Alves
ligiaalves60@hotmail.com

Abreu Pecamena
menapeca50@hotmail.com

Peter Winch
pwinch@outlook.com

1 Department of International Health, Bloomberg School of Public Health, Johns Hopkins University, 615 N. Wolfe Street, Baltimore, MD 21205, USA

2 Jhpiego Angola, Luanda, Angola

3 Ministry of Health, Luanda, Angola

4 Ministry of Health, Huambo, Angola

5 Faculty of Medicine, Jose Eduardo dos Santos University, Huambo, Angola

6 Management Sciences for Health, Huambo, Angola

7 Augusto Ngangula Hospital, Luanda, Angola

8 Lucrecia Paim Maternity, Luanda, Angola

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Significance

What is already known on this subject? Motives for contraceptive discontinuation around the world include adverse and unexpected side effects, partner influence, and desire for pregnancy. Improving quality of service delivery has been proposed as one method of decreasing discontinuation, however there are mixed results from this.

What does this study add? We present an alternative explanation for understanding discontinuation. We propose that local norms on ideal family size, and societal expectations of women in relation to fertility may be what drives discontinuation, while adverse side effects and misinformation reinforce concerns about the effects of contraception on future fertility.

Introduction and Background

Discontinuation of contraception continues to be a notable problem globally that has negative implications for reproductive health, and hinders efforts to improve maternal and child mortality. Defined by Family Planning 2020 (2015) as "starting contraceptive use and then stopping for any reason while still at risk for unintended pregnancy", discontinuation places women at risk for unintended or mistimed pregnancy, stillbirth, miscarriage, or induced abortion (Ali et al. 2012; Blanc et al. 2002). An analysis of discontinuation probabilities in 19 countries found that 37.7% of women had discontinued their contraception at 12 months, 54.6% at 24 months, and 65.4% at 36 months (Ali et al. 2012). Common motives for discontinuation have been found to include adverse side effects, dissatisfaction with the method, desire for pregnancy, and partner dissatisfaction (Azmat et al. 2013; Chebet et al. 2015; Cotten et al. 1992; D'Antona Ade et al. 2009; Eva and Ngo 2010; Tolley et al. 2005; Zhou et al. 2015).

In a study conducted in both Niger and The Gambia, side effects were the most common reason cited for contraceptive discontinuation documented in The Gambia, followed by desire for pregnancy, and not being sexually active. In Niger, the most common reason given was travelling, which was understood to include the following meanings: when the woman was travelling and was unable to obtain more contraceptives, or when the husband was away and prohibited access to contraceptives. This was followed by side effects, cost of contraception, and partner or family disapproval (Cotten et al. 1992). Similarly, a study conducted in Brazil found that 'health problems' were the most common reason listed by women for discontinuing hormonal pills and injections, including abnormal bleeding, headaches, dizziness, nausea, and vomiting (D'Antona Ade et al. 2009). In Egypt, a study following 259 women who used an intra-uterine device (IUD), sub-dermal contraceptive implant (CI), or three-month injectable found that 40% of women who discontinued cited abnormal bleeding, including both prolonged bleeding and lack of bleeding, as their primary motive (Tolley et al. 2005).

In Angola, the absence of data on contraceptive trends and discontinuation limit the ability to make comparisons. Existing estimates indicate that only 6% of married Angolan women use contraception, of which 4% are modern methods, and 2% traditional (The World Bank 2011). This is of concern given the high rates of maternal and under-five mortality that continue to affect the country, coupled with a high fertility rate. Angola has an estimated under-five mortality that ranges from 90.1 to 157 deaths per 1000 live births, and an estimated maternal mortality ratio of 310.1 deaths per 100,000 live births (Kassebaum et al. 2014; The World Bank 2015; Wang et al. 2014). As of 2013, the total fertility rate in Angola was estimated to be 6.2 (The World Bank 2011, 2013). High fertility rates and short birth intervals, as well as birth at too early an age, are associated with higher maternal and under-five mortality (Ahmed et al. 2012).

The Government of Angola, supported by the USAID-funded Fortalecimento do Sistema Angolano de Saúde (ForçaSaúde) program, is addressing low contraceptive prevalence by promoting a wide selection of methods that include IUDs, CIs, contraceptive hormonal injections, oral contraceptive pills, and male/female condoms. The 5-year program has focused on expanding contraceptive access and choice across Huambo and Luanda provinces by supplying contraceptives for free, with an emphasis on Jadelle brand CIs. Jadelle implants consist of two small plastic capsules that release levonorgestrel (a synthetic progestin) into the body, and are inserted into the upper arm by a trained provider; once inserted, they have a lifespan of 5 years (Sivin et al. 2002). To improve capacity within the health system to deliver family planning (FP) services, the program has trained 142 health workers to insert and remove implants, and provide counseling on various contraceptive methods to women of child-bearing age. Between June 2012 and September 2013, approximately 13,000 clients received CIs (Jhpiego 2014).

Discontinuation rates of contraception in Angola are currently not known and documentation of this behavior has been inconsistent. Despite this, elevated rates of discontinuation represent a serious challenge to success of the program. The purpose of this study is to investigate factors that influence contraception discontinuation in the Angolan setting.

Decisions made around FP are complex and nuanced by the local context that an individual is situated within. The decision to use, or to discontinue use, of contraceptive methods are likely to be influenced by a range of factors that extend beyond the individual. These factors and their relationship to contraceptive use and fertility are modeled by a number of different frameworks.

The National Research Council (1993) presents a multilevel framework of four levels of factors influencing contraceptive use, which we will refer to as individual, household, community and national levels (see Table 1). Factors at the individual level affect the immediate decision of the individual to use or not to use contraception, including personal preference and knowledge of contraception. Factors at the household level include those which influence an individual's relationships and social network with those around them, as well as factors that influence an individual's ability to access contraception. Factors at the community level include local influences and community characteristics that may affect trends, norms, and mortality rates. Lastly, at the national level, such factors encompass those that affect policies, programs, and overall discourse. Together, these four levels of factors influence the demand for births, and the potential supply of birth, which in turn leads to contraceptive use. This framework informed the conceptualization of the study and the process of data analysis.

Methods

We conducted the study at eight clinics in Huambo and Luanda provinces, where ForçaSaúde operates. The estimated populations of Luanda and Huambo provinces are 6,542,944 and 1,735,244 respectively (Instituo Nacional de Estatistica 2014, 2015). Luanda province is primarily urban (97.5%), whereas Huambo is 46.7% urban (Instituo Nacional de Estatistica 2014).

Eight Angolan nurses were recruited as data collectors and underwent a 2-day training in qualitative research methodology. Pilot testing of instruments was conducted in Huambo, Angola and instruments were revised before data collection began.

We selected clinics purposively to maximize variety in size and geographic location. Participants consisted of current and former CI clients, and FP providers (nurses) at the selected clinics.

Table 1 Factors affecting contraceptive use, adapted from the National Research Council (1993)

Individual	• Individual knowledge • Attitudes • Access to family planning
Household	• Household and kinship structures and decision making • Conjugal bond and spousal resources • Wider kin resources • Costs and benefits of investments in children • Costs of access to family planning
Community	• Local political and social organization • Infrastructure (schools, health and labor market) • Infant and child mortality • Group norms regarding fertility • Family planning services
National	• Social policy environment • Economic situation • Government and donor support for family planning • Family planning program implementation

Data Collection

The study team conducted data collection throughout November of 2015. The study protocol was approved by both the Johns Hopkins School of Public Health (JHSPH) Institutional Review Board (IRB) and by the National Ministry of Health (MoH) Ethics Committee in Angola. Recruitment was conducted both in-person at clinics and through the phone using contact information obtained from patient records. Participants recruited in-person were interviewed that same day. Participants recruited by phone were interviewed at a day and time most convenient to them. Data collectors administered an initial recruitment script to participants, followed by a consent script. They obtained oral consent from all participants before continuing with the IDI or FG.

IDIs lasted approximately 30 min, and FGs between 60 and 90 min. All IDIs and FGs took place in Portuguese. The study team compensated participants for travel costs if they had to return at an alternate date to the clinic for their IDI or FG. Data collectors recorded all IDIs and FGs with the permission of participants, and took notes throughout the interview.

Data collectors used semi-structured interview guides. We developed separate interview guides for each category of participants. IDI and FG guides for clients focused on individual level experiences of using the implant including likes and dislikes, and motives for discontinuation. IDI and FG guides for providers focused on their experiences in delivering implants and their perceptions on what motivates clients to discontinue use of their implants. We conducted both IDIs and FGs for each category of participant due to the fact that in some settings, IDIs and FGs may elicit different information; some participants may feel more comfortable in a private setting, whereas others may feel more comfortable in a group setting.

Data Analysis

Data collectors uploaded digital recordings of IDIs and FGs onto study laptops after completion of each day's interviews. Data collectors extracted and transcribed key information about client and provider experiences. We translated data from Portuguese into English, and cross-checked results with notes taken by data collectors in debriefing meetings throughout the data collection period.

We conducted data analysis using a combined deductive/inductive approach, wherein some codes were determined a priori from the literature and author experience, and some as they emerged from the data through debriefing sessions with data collectors. We used Microsoft Office Excel to code, analyze, and organize data. We referred to the framework by the National Research Council (1993) throughout the analysis period to assess if our findings fell in line with existing theories of discontinuation.

Results

Demographic Characteristics

We conducted a total of 45 IDIs and 6 FGs across three respondent groups: current clients, former clients and providers (FP nurses) with a total of 78 participants (Tables 2, 3). All participants, including providers, were female. The mean age of current and former clients was 29.6 ± 4.2 and 34.1 ± 8 years respectively, with ages ranging from 19 to 47 for current clients and 19–52 for former clients.

Factors leading to discontinuation were similar across respondents from Huambo and Luanda. Providers had different perspectives from former and current clients, focusing more on client lack of information and the alternative information that clients had. We did not differentiate results by IDI or FG due to the fact that FGs did not produce substantially different themes.

Key Factors Leading to Discontinuation

Adverse Side Effects

A majority of former clients described adverse side effects as their primary reasons for discontinuation. These included prolonged or irregular menstrual bleeding, pain at the insertion site, headaches, hypertension, and tiredness, amongst others. As described by one participant: "Yes, recently I started feeling reactions such as weakness, headache, and bleeding that was too long" [former user (F), Huambo (H), age 27]. Some participants described how they were initially free of side effects, only to begin bleeding heavily 1 or 2 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" [F, Luanda (L), age 30]. For a number of women, a lack of menstruation was viewed in a negative light, and was a 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" (FH, age 35).

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 clients discontinued use.

A handful of providers indicated that side effects may possibly be an excuse used by clients to have the implant removed when they have an alternative motive for discontinuation. As described by providers: "First we have to know if she is even telling the truth, first to know if she is with bleeding…"[provider (P), H, age 60]. "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" (PL, age 52).

Desire for Pregnancy

A small number of current and former clients interviewed stated that their desire for another child was the reason for discontinuation, or future discontinuation: "[I will remove in] 2017, to have another baby" [current user (C), H, age 24]. One client describes: "It was my decision, the reason was only that I wanted to have another child" (FH, age 29).

Some described their long-term FP goals, and their intentions to return to using a CI after completing their families. Clients discussed the importance of limiting family sizes and birth spacing, and how women should plan for their ideal family size given the current economic conditions of the country.

While desire for pregnancy as a motive for discontinuation was not cited by clients frequently during IDIs or FGs, it was more commonly described by providers as a factor.

Partner Dissatisfaction

Clients and providers described partner dissatisfaction as a reason for discontinuation of CIs. Some clients described receiving their implant without informing their partner, and were required to remove it after their partner found out: "What made me take it out is that my husband did not like it, I did not put with his authorization" (FH, age 27). Others also described their partner's desire to have another child, resulting in them removing their implant. One participant described: "It was not my decision to remove; my desire was to continue up until five years, my husband asked me to get pregnant" (FH, age 38). One provider during the FG

Table 2 Demographic characteristics of current and former implant users in Huambo and Luanda

	Current users			Former users		
	Huambo (n = 12)	Luanda (n = 14)	Combined (n = 26)	Huambo (n = 12)	Luanda (n = 13)	Combined (n = 25)
Age (years)						
Mean	27.4	31.5	29.6	32.1	35.9	34.08
Median	27	32.5	28.5	30	34	32
Min	22	19	19	19	24	19
Max	38	47	47	46	52	52
Marital status						
Married/cohabiting	67%	14%	38%	33%	31%	32%
With partner	0%	21%	12%	0%	0%	0%
Single	33%	57%	46%	67%	69%	68%
Divorced	0%	0%	0%	0%	0%	0%
Widow	0%	0%	0%	0%	0%	0%
Not reported	0%	7%	4%	0%	0%	0%
Level of education (started)						
No education	0%	0%	0%	0%	0%	0%
Primary school	8%	7%	8%	0%	0%	0%
Middle school	58%	14%	35%	17%	8%	12%
Secondary school	17%	29%	23%	58%	31%	44%
Post-secondary school	17%	50%	35%	17%	62%	40%
Not reported	0%	0%	0%	8%	0%	4%
Age at first birth						
Mean	18.8	19.75	19.3	17.7	21.8	19.84
Median	19	18	19	17	22	19
Min	14	15	14	15	16	15
Max	24	27	27	25	29	29
Parity						
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
No. of children						
0	0%	14%	8%	0%	0%	0%
1–2	67%	29%	46%	17%	54%	36%
3–4	25%	50%	38%	58%	23%	40%
5+	8%	7%	8%	25%	23%	24%

noted that some clients are subject to violence from their partners if they are found to be using contraception: "Some hide the cards [CI] so their husbands won't find out, and to prevent violence" (PH, FG1).

One provider indicated that 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" (PL, age 50).

Alternative Information and Lack of Information

Numerous providers described clients returning to have their implants removed due to alternative explanations about CIs that circulate in the community, or a general lack of information about CIs. Some examples of alternative information that providers described hearing can be seen in Box 1.

Table 3 Demographic characteristics of family planning providers in Huambo and Luanda

	Providers[a]		
	Huambo (n = 13)	Luanda (n = 14)	Combined (n = 27)
Age (years)			
Mean	40.3	49.4	45.0
Median	37.0	51.0	40.0
Min	29.0	36.0	29.0
Max	60.0	63.0	63.0
Years working in FP			
Mean	6.7	10.4	8.7
Median	2.0	8.5	4.5
Min	0.1	0.3	0.1
Max	35.0	31.0	35.0

[a]Data on education levels and years worked in the Huambo region are available for interviewees only, and not focus groups participants

Religion

Religious opposition from the church appears to be a possible motive for discontinuation. In some churches, religious leaders describe contraception use as a sin and tell women to avoid them. One provider described: "For some [it is] religion and work of the demon" (PL, age 52). While this was only mentioned by one provider during interviews, this topic arose more frequently during exploratory conversations that took place in the community with health workers and community members, which were documented in field notes.

Provider Knowledge and Quality of Care

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" (FH, 36). 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…" (CL, 30).

According to one provider, lack of information or skills on CIs among some FP providers is a further reason for discontinuation: "Influenced by other people, in the streets, and often by some health workers who do not have clear information about the implants" (PH, age 33). Providers in one of the FGs also described the role of doctors in leading some clients to discontinue their CI: "Some doctors they tell the patients to remove the implant" (PL, FG3).

Discussion

This study adds to the limited available literature on CI use and motives for contraceptive discontinuation in Angola. Our findings from this study are generally in line with existing literature around modern contraceptive discontinuation in similar settings where fertility rates continue to be high. Participants highlighted a number of key factors that influenced their decision to discontinue their CI, including adverse side effects, desire for pregnancy, partner dissatisfaction, perceived poor quality of care and counseling, alternative information about CIs, and religion. Modifying the framework of the National Research Council and applying it to these results, these factors can be seen as falling across the spectrum of levels (see Table 4), with the majority falling into the individual, household and community levels.

Overwhelmingly, adverse side effects were the primary reason cited by clients and providers as being a motive for discontinuation. This was not surprising, given existing knowledge from the literature on contraceptive discontinuation. In other studies and programs related to improving contraceptive use, quality of care and improving counselling and education have often been cited as ways to decrease discontinuation. However, recent studies have found that education and counselling have had mixed results in regards to decreasing discontinuation of long-acting contraceptives, even with the use of newly developed tools such as the WHO client-centered decision-making

Box 1 Examples of alternative explanations for CIs

- CIs melting in the body or moving within the body: "…the time a client requested the removal because they said that the chip [CI] melts in the body" (PH, age 37)
- CIs cause death: "They say that the Jadelle [CI] moves in the body and when it comes to the head the person dies with thrombosis" (PH, age 33)
- CIs cause permanent infertility: "Because some women think that they will be unable to have children after having an implant for five years" (PH, age 55)
- That adolescents cannot receive CIs: "The patients they say that adolescents should not do [planning]…they say that after they have difficulties getting pregnant" (PL, FG3)

Table 4 Factors for discontinuation organized by level

Individual	Adverse side effects, desire for pregnancy
Household	Desire for pregnancy, partner dissatisfaction, alternative information about CIs, perceived poor quality of care and counseling
Community	Religion, support or opposition to FP on the part of religious leaders
National	None

tool (Chin-Quee et al. 2007; Kim et al. 2007; Langston et al. 2010).

Multiple participants cited lack of menstruation as a reason for discontinuation. This is similar to a study in Egypt, where a third of participants described lack of menstruation as the reason for stopping their contraceptive injections (Tolley et al. 2005). A recent study in Angola found that women view their ability to bear children as being tied to their intrinsic value and identity, both for their partner and to the community; as a result, women are fearful of negatively affecting their fertility, particularly early on in their reproductive years (Vohra et al. 2013). Through this lens, lack of menstruation can be seen as a highly negative side effect, as women may associate this with damage to her reproductive system and an inability to bear children in the future, in turn affecting multiple aspects of her life, including economic stability and community acceptance.

Infertility and a fear of losing the ability to become pregnant also lends itself as a way to understand partner dissatisfaction as a motive to discontinue use. Specific to the Angolan context, women feel that if they do not bear their husband children, they will be left for another woman (Angola Ministry of Health, National Office of Public Health, Advance Africa, and USAID/Angola 2003). This gendered power dynamic therefore plays an important role in both uptake of contraception, as well as continued use. Prior studies in Luanda have provided evidence that having a husband's support and approval is significantly associated with modern contraceptive use (Prata et al. 2015). Women who had the approval of their partner were 2.1 times more likely to use contraception, after controlling for sociodemographic variables (adjusted OR, 95% CI 2.3–3.8).

Conventional program efforts to decrease discontinuation have focused on factors at the individual and household levels by improving knowledge and awareness of contraception, and access to services. These programs may therefore not address key underlying reasons as to why women discontinue use. In Caldwell and Caldwell's (1987) landmark study examining the cultural context of high fertility in sub-Saharan Africa, they described the importance of children to African societies, from a religious and practical perspective. The concept of 'barrenness', or the ability of a woman to reproduce, was described as holding notable symbolic significance in defining a woman and her intrinsic value. While this study was conducted almost three decades ago, recent studies from Angola presented above reflect similar themes in how women view their reproductive capabilities in relation to their own worth.

We propose an alternative explanation for understanding discontinuation. While initial insertion of a CI, or other long-acting reversible contraceptive (LARC) may address an immediate "point prevalence" of unmet need, this does not factor into account how a woman's preference changes over time. In other words, the "period prevalence" of unmet need (occurrence over a longer period of unmet need) may evolve over time, whether that is in the immediate year after insertion, or over the full 5 years of the CI's effective lifespan. Women may wish to have another child, as indicated in a number of the responses elicited from IDIs and FGs, or they may have intentions to do so within a certain time frame. In the context of shifting fertility preferences, adverse side effects and contradicting information on the dangers of CI's may provoke concerns around maintaining fertility, and as a result, lead to discontinuation.

Conventional programs and funding efforts to increase contraception use have invested little on communicating the benefits of child spacing and smaller family sizes. With limited understanding or appreciation of this, women and their partners may more easily fall under the sway of rumors and misinformation, or fail to see the benefits of continued contraceptive use. Working to change norms and address rumors and misinformation at the community and national levels, including promotion of the economic benefit of smaller families, may subsequently be a more effective and sustainable approach for programs to adopt.

Limitations

This study has a number of limitations. First, the paucity of reliable country-wide data on FP and contraceptive discontinuation makes it difficult to triangulate qualitative findings and make reliable conclusions. Second, findings are limited to the urban areas of Luanda and Huambo, excluding the rural population and those in other provinces. Third, challenges around data collection may have affected the overall quality of data. In order to gain buy-in from MoH officials and facility managers, data collectors were nurses that had familiarity with the selected clinics, potentially introducing biases to the data.

Conclusion

In Angola, discontinuation of CIs further complicates efforts to increase uptake and improve maternal and child health. Our findings reflect results from similar settings, where adverse side effects, desire for pregnancy, and partner dissatisfaction were the most commonly described reasons for discontinuation. These factors however may be viewed as symptoms of broader societal norms around desired family size and traditional gender roles, and expectations around women and fertility. While the Government of Angola should continue to invest in efforts to strengthen service delivery to ensure that clients receive high quality counseling and appropriate guidance on how to mitigate side effects, further research should be conducted to investigate whether the promotion of smaller family size and efforts to shift cultural norms around women's roles in society is an effective way of reducing discontinuation. Following this, research around how communication should be framed and disseminated should be conducted to better understand what messages are most culturally appropriate and relevant.

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