Shifting Postpartum Women's Sexual and Reproductive Health Attitudes, Beliefs, Norms, and Intentions in Tigray, Ethiopia:

EVALUATION RESULTS FROM THE (RE)SOLVE PROJECT

(re)solve PATHFINDER CAMBER COLLECTIVE ICRW INTERNATIONAL CENTER FOR RESEARCH ON WOMEN PASSION. PROOF. POWER. ideas42

BACKGROUND

ABOUT (RE)SOLVE

Launched in 2016, the (re)solve project was led by Pathfinder International, in partnership with Camber Collective, the International Center for Research on Women (ICRW), and ideas42. The consortium used expertise from consumer insights, behavioral design, and public health to discover what keeps women and girls from using modern contraception even when they wish to avoid pregnancy. At (re)solve's core was the conviction that one size does not fit all. (re)solve designed and customized data-informed solutions and services to the needs, motivations, and lived experiences of women and girls in Burkina Faso, Ethiopia, and Bangladesh.

POSTPARTUM MODERN CONTRACEPTIVE USE IN ETHIOPIA

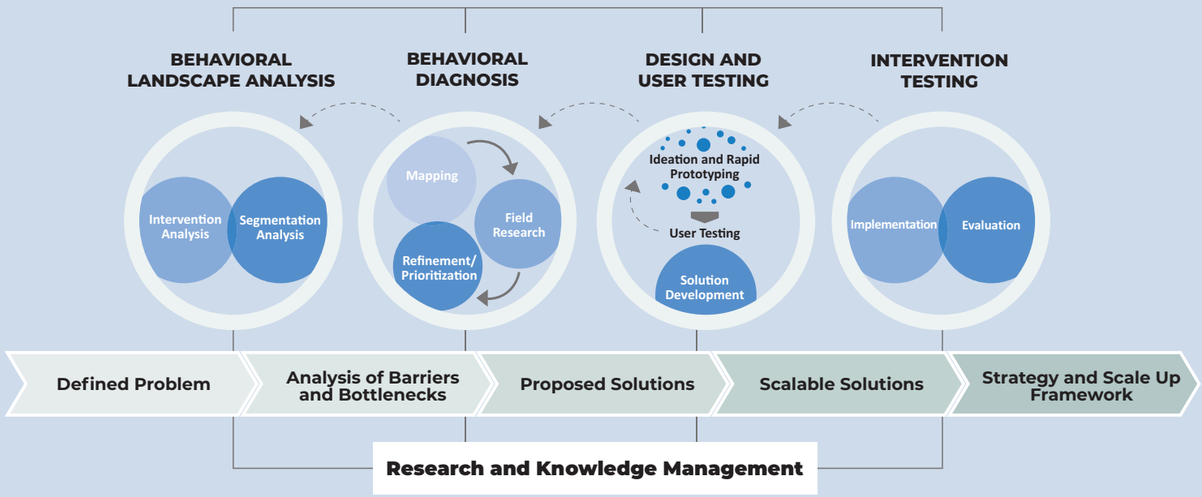
Postpartum Ethiopian women have an unmet need for contraceptives 2.1 times higher than Ethiopian women overall (35% vs. 17%).[1] Studies show that women in the extended postpartum period have a higher need for contraceptive use for birth spacing than for limiting births.[2] Addressing this unmet need is key—birth intervals of at least two years are associated with improved child nutrition and birthweight, decreased infant mortality, lower risk of miscarriage or stillbirth, and lower risk of maternal morbidity or mortality.[3]

Maternal education level, socioeconomic status, knowledge of contraceptives and the lactational amenorrhea method (LAM), and experience with previous methods of contraception are all associated with intent to use postpartum contraception.[4] Postpartum women frequently cited amenorrhea, fear of side effects, infrequent sexual activity, and their husband's opposition to contraception as reasons for not using a contraceptive method.[5] Many women underestimate their risk of becoming pregnant during the postpartum period and assume that practicing LAM will protect against pregnancy.[6]

Engaging women with maternal healthcare services during pregnancy and postpartum has been shown to increase the likelihood of postpartum family planning (PPFP) use.[7] Focusing on antenatal care (ANC) and postnatal care (PNC) touch points for PPFP allows (re)solve to work towards addressing the gaps in PPFP use to improve maternal and child health outcomes.

[1] CSA & ICF, 2011
[2] Embafrash & Mekonnen, 2019; Tegegn, et al, 2017
[3] Tessema, et al, 2018; WHO, 2005
[4] Gebeyehu, et al., 2020; Tegegn, et al, 2017; Wakuma, et al, 2020; Abraha, et al, 2017; Tessema, et al, 2018
[5] Tegegn, et al., 2017; Embafrash & Mekonnen, 2019; Dev, et al, 2019
[6] Embafrash & Mekonnen, 2019; Tegegn, et al, 2017
[7] Abraha, et al, 2017; Tessema, et al, 2018; Dev, et al, 2019

THE (RE)SOLVE FRAMEWORK



The (re)solve Framework

The (re)solve approach had four phases: behavioral landscape analysis, behavioral diagnosis, design and user testing, and intervention testing.

PHASE I: BEHAVIORAL LANDSCAPE ANALYSIS

(re)solve's behavioral landscape analysis shed light on the dynamics that influenced nonuse of contraceptives among postpartum women in Ethiopia. We used segmentation[8] to classify this heterogenous population into six relatively homogenous categories or 'segments' based on shared demographic, attitudinal, and other characteristics. Insights from segmentation informed the behavioral diagnosis, design, and development of the intervention

8 The activity of dividing a larger population into sub-groups of people (known as segments) based on some type of shared characteristic, such as shared needs, common interests, similar lifestyles, or even similar demographic profiles.

Health provider in Tigray reviews the Home Visiting Tracking Log, PPFP Counseling Sheet, and Risk Referral Card. Photo: Sarah Lance

PHASE II: BEHAVIORAL DIAGNOSIS

Understanding intention, which lies between deciding to use a contraceptive method and actual use, requires examining and overcoming the behavioral bottlenecks[9] that prevent postpartum women from using contraception. (re)solve identified multiple bottlenecks which prevent postpartum women from making and acting on contraceptive use decisions. The (re)solve team assessed each bottleneck for relevance to the problem of contraceptive nonuse, evidence of its existence, and feasibility to address, and finalized three dominant bottlenecks that influence both postpartum women's intention to use contraception and their follow through on that intention:

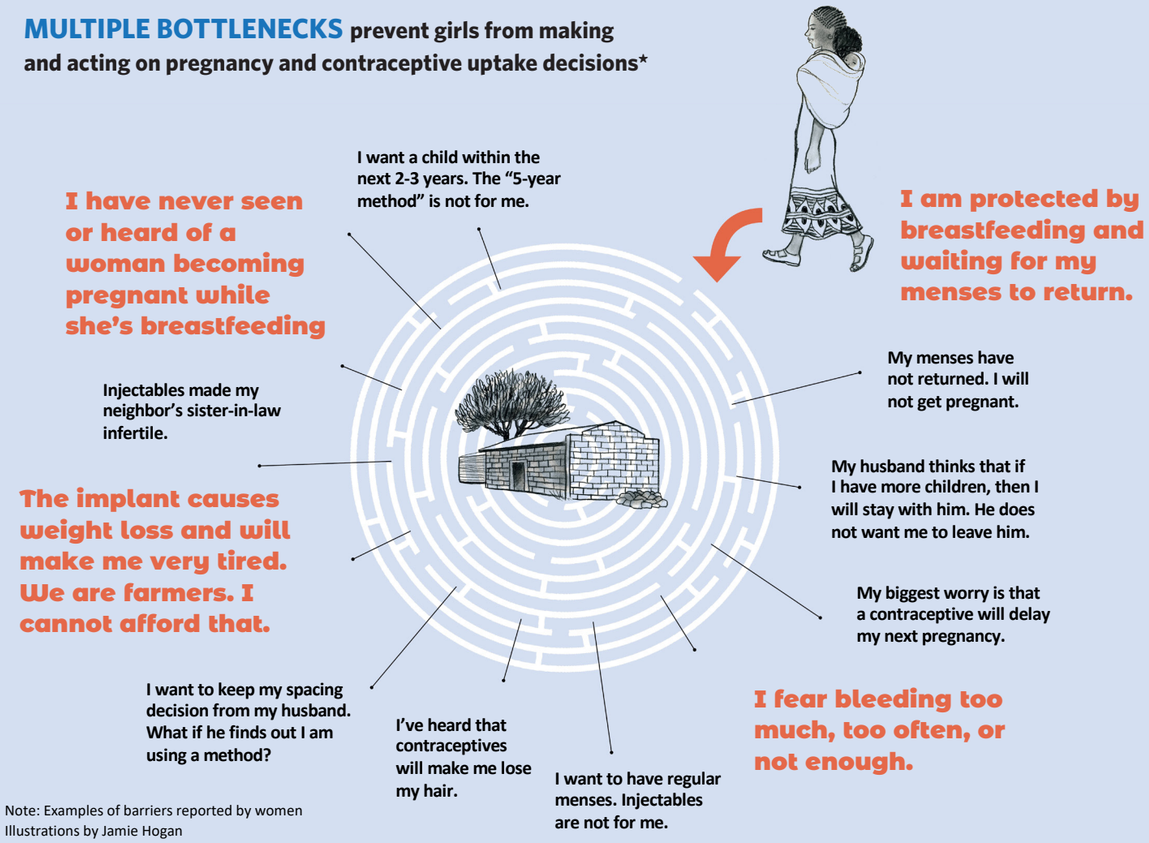
+ Women hear about or see other women experiencing severe side effects, including feeling ill due to contraceptives and contraceptive-induced infertility. The latter is perceived to be too great of a risk. On the other hand, women do not hear about any similar downsides from breastfeeding.
+ Providers explain long-acting methods to postpartum women and name them by their duration of efficacy (e.g., the "three-year" method) and women want to have children before that duration.
+ Women hear from friends or relatives that they are protected from pregnancy by breastfeeding until their menses return.

9 Barriers that prevent an individual from making a decision or taking action that would otherwise meet their needs (i.e., using a contraceptive method to avoid unintended pregnancy).

PHASE III: DESIGN AND USER TESTING

The design and user-testing phase of the project involved several steps: ideation (during which the team, postpartum women, and health providers generated myriad potential solutions to address the prioritized bottlenecks), prototyping top-scored ideas, and user testing. During user testing, we showed earlier versions of the prototypes to implementation staff, postpartum women clients, and health providers and used their feedback to refine prototypes. At the end of this phase, we finalized a set of solutions to be implemented in Tigray with postpartum women receiving ANC and/or PNC services from health providers (including health extension workers) at health facilities, during outreach, and through home visits.

MULTIPLE BOTTLENECKS prevent girls from making and acting on pregnancy and contraceptive uptake decisions*



Note: Examples of barriers reported by women
Illustrations by Jamie Hogan

SOLUTION SET COMPONENTS:
PPFP Counseling Sheet,
ANC Planning Prompt,
Home Visiting Tracking Log,
and Risk Referral Card
(clockwise, from top left)

*The tools were produced in the local language, Tigrigna, but are pictured here in English for reference.

THE (RE)SOLVE SOLUTION SET

The solution set comprised four tools.

ANC PLANNING PROMPT: The planning prompt card provides space for providers and clients to record dates for future family planning (FP) counseling visits (at delivery, 45 days postpartum, or the 10-week immunization visit). It fits into the existing Health Appointment Booklet that facilities give to each new client. Providers deliver the planning prompt card to clients during the third and fourth ANC visits and, if the client has not been exposed to the card during ANC visits, after delivery up to seven days postpartum. The client takes the card home with her as a commitment and reminder. It counteracts the perception that it is not necessary to take action to prevent pregnancy while breastfeeding.

RISK REFERRAL CARD: Providers complete this simple assessment tool with clients during immunization visits. The client answers a series of questions based on LAM criteria (age of infant, frequency of breastfeeding, etc.). Their responses determine their need-level for PPFP counseling (low, medium, high) which is represented with a familiar, escalating green-yellow-red color scale. If the client has a score of medium (yellow) or high (red), the provider is prompted to initiate or refer the client for FP counseling. Movement along the color scale at each immunization visit demonstrates the increased risk of pregnancy over time for clients. The referral card counters the perception that breastfeeding protects against pregnancy risk and that women cannot become pregnant before their menses return.

PPFP COUNSELING SHEET: Providers use this sheet's talking points when providing PPFP counseling to clients with medium or high pregnancy risk per the Risk Referral Card. It serves as a quick reminder of key messages for busy providers and allows them to deliver more effective counseling. It emphasizes the risk of pregnancy by highlighting deidentified stories of local women who became pregnant while breastfeeding before their menses returned. Other talking points assure the client that the provider can help address side effects and that the method can be discontinued at the client's discretion to meet her fertility goals. The counseling sheet highlights the inefficacy of breastfeeding alone as a contraceptive, encourages providers to discuss managing side effects with clients, and dispels the perception that a contraceptive method must be used for its maximum duration.

HOME VISIT TRACKING LOG: This is a comprehensive notebook for Health Extension Workers (HEWs) to use during home visits to systematically track women at risk of pregnancy in the postpartum period. The tool promotes the integration of all the solutions by prompting HEWs to use the other tools during their visits. It was designed at the suggestion of the HEWs during user testing.

PHASE IV: INTERVENTION TESTING

IMPLEMENTATION

We implemented the solution set in seven primary health care units (PHCUs) in Tigray, Ethiopia from April to December 2021 after two previous starts and pauses brought on by COVID-19 (in early 2020) and the regional conflict in Tigray (late 2020). (re)solve utilized the experience of and relationships with health facilities in PHCUs which were already working with the USAID-funded flagship TRANSFORM: Primary Health Care project, which Pathfinder International implements with a consortium of partners. (re)solve received support throughout training and implementation from the Health Center Directors of the PHCU intervention sites and woreda health office staff.

A total of 183 male and female providers, including supervisors, midwives, HEWs, nurses, doctors, and other clinical and facility staff, were oriented to the (re)solve project, objectives, and process and trained on proper implementation of each tool. The (re)solve team led these trainings, including practice sessions with the tools for the providers and guidance on how to seamlessly integrate the tools into existing workflows, and distributed the printed tools for each PHCU. Implementation began in a staggered fashion, with each PHCU starting implementation of the tools as soon as its providers completed the training.

DISRUPTIONS TO IMPLEMENTATION

Implementation and evaluation of the solution set were disrupted, rescheduled, and adapted on multiple occasions due to the global onset of the COVID-19 pandemic in March 2020 and the emergence of the conflict in Tigray in November 2020.

We paused implementation from April to August 2020 to protect the health and safety of the implementation team, data collectors, providers, and clients. The project team paused implementation again from November 2020 to March 2021 as a result of the conflict. A complete communication blackout persisted throughout the implementation and evaluation period, preventing most communications within and outside Tigray. On-site monitoring visits to health facilities had to be curtailed or cancelled due to evolving and shifting security issues in and around Mekelle, preventing consistent collection of monitoring data. We were only able to collect complete monitoring data during September 2021.

It is important to note that the (re)solve solution set was not designed to be used in conflict or post-conflict settings. Local reports indicated that not only was health facility infrastructure damaged, but supply chains were affected, on-hand supplies were limited, and health providers were often absent from the facilities. This period also saw increased risk associated with travel, making home visits by HEWs challenging or impossible in some areas and making travel to facilities difficult and/or unsafe for clients. The intended use of these tools was likely affected because of these contextual changes.

Evaluation

METHODS

The primary hypothesis of the impact evaluation was that postpartum women who were exposed to the set of (re)solve interventions would be more likely to report having a current intention to use contraception compared to similar postpartum women who were not exposed to this solution set. We also hypothesized that exposed postpartum women would be more likely to have better fertility awareness, more accurate pregnancy risk assessment, better contraceptive self-efficacy, and increased modern contraceptive use.

We used a quasi-experimental, mixed-method design to answer our research question and reach our study aims. Specifically, we used the following methods:

+ Cross-sectional, facility-based surveys at endline with women who were between four and six months (16-24 weeks) postpartum conducted at intervention and comparison PHCUs; and

+ Qualitative interviews with health providers who had experience with the (re)solve interventions.

For the quasi-experimental design, we purposively assigned a total of 14 PHCUs to receive the package of facility-based (re)solve solutions or serve as comparison PHCUs. Intervention PHCUs implemented for approximately 6 months before study enrollment began. Women at both intervention and comparison PHCUs were eligible for study enrollment if they were attending the healthcare facility for any reason while they were 16-24 weeks postpartum. Recruited women completed a survey questionnaire after consenting to join the study.

The objective of the interviews with providers was to better understand the implementation experience and perceived impact of the (re)solve solution set in intervention PHCUs. We purposively selected two health providers and two HEWs from each of the seven intervention PHCUs to participate in semi-structured interviews.

Recruitment, training, and piloting for the quantitative and qualitative components took place in September and October 2021, followed by data collection in October through December of 2021.

The ICRW Institutional Review Board (Washington, DC) and the Tigray Health Research Institute (THRI) provided ethical review and approval for this research.

DISRUPTIONS TO EVALUATION

The multiple pauses and restarts disrupted our evaluation design and plan as well. We had initially planned a randomized control trial of 16 intervention and control PHCUs using a longitudinal design and completed the baseline in December 2019 – February 2020; however, the almost year-long pause meant that we had to discard the baseline and redesign the evaluation with fewer available resources. We therefore developed a cross-sectional quasi-experimental design and reduced the number of implementation and evaluation sites to seven from eight. As a result of the ongoing security challenges, including reports of health facilities being looted, damaged, or closed, we were more selective about site locations to ensure the safety of our team during training and implementation and to minimize potential conflict-related disruptions to services. We purposively selected sites that were open, staffed, and functioning. Consequently, our site selection excluded certain zones, and we purposively selected PHCUs close to Aksum, Shire, and Mekelle to reduce travel duration and travel-related disruptions.

An infant is weighed during a visit to a health facility in Tigray. Photo: Sarah Lance

QUANTITATIVE FINDINGS

In total we surveyed 321 postpartum women, 49.5% of whom were in the comparison group (N=159). **TABLE 1** shows the demographic and other key characteristics of the quantitative sample. There were several notable differences between comparison and intervention-group women. Compared to comparison group, women in the intervention group were more likely to have fewer assets, have an occupation, have had at least four ANC visits, and have ever used contraception. There were also statistically significant differences between intervention and comparison women on where they were interviewed for the study and receiving care and where they delivered.

TABLE 1. **Quantitative study participant characteristics by intervention and comparison sites**

		COMPARISON N= 159 (49%)	INTERVENTION N= 162 (51%)	TOTAL N= 321 (100%)
Age (years), *mean (SD)*		28 (6)	28 (5)	28 (6)
Highest level of schooling, *n (%)*	No school	51 (32%)	62 (38%)	113 (35%)
	Primary	35 (22%)	33 (20%)	68 (21%)
	Secondary	50 (31%)	37 (23%)	87 (22%)
	More than Secondary	23 (15%)	30 (19%)	53 (17%)
Marital status, *n (%)*	Married and living with partner	84 (53%)	65 (40%)	149 (46%)
	Not married but living together	69 (43%)	91 (57%)	160 (50%)
	Not in union, or other	6 (4%)	5 (3%)	11 (3%)
Husband's age (years), *mean (SD)* (N=293)		35 (7)	35 (7)	35 (7)
Parity, *mean (SD)*		3 (2)	2 (2)	3 (2)
Assets*	High assets	88 (53%)	70 (43%)	158 (49%)
	Low assets	71 (45%)	92 (57%)	163 (51%)
Woman has an occupation**	No occupation	106 (67%)	83 (51%)	189 (59%)
	Occupation, mainly farmer, petty trade, or wage employment	53 (33%)	79 (49%)	132 (41%)
Facility type (location of interview)***	Primary hospital	38 (24%)	13 (8%)	51 (16%)
	Health center	48 (30%)	78 (48%)	126 (39%)
	Health post	73 (46%)	71 (44%)	144 (45%)
No. months postpartum	Four	35 (22%)	43 (27%)	78 (24%)
	Five	87 (55%)	84 (52%)	171 (53%)
	Six	37 (23%)	35 (22%)	72 (22%)
Had at least four ANC visits (N=288)*	No	51 (54%)	44 (46%)	95 (44%)
	Yes	75 (37%)	118 (61%)	162 (56%)
Where woman delivered baby (N=320)***	At home	44 (28%)	18 (11%)	62 (19%)
	Govt Hospital	67 (42%)	38 (24%)	105 (33%)
	Govt health center	47 (30%)	106 (65%)	153 (48%)
Ever used contraception***	No	74 (47%)	29 (18%)	103 (32%)
	Yes	85 (54%)	133 (82%)	218 (68%)

Assets are a combination of livestock/herd/farm animal/poultry ownership + agricultural land ownership + household ownership of 10 items (e.g., electricity, television, etc.)
Statistically significant at * p<0.05, **p<0.01, ***p<0.001

EXPOSURE TO THE (RE)SOLVE INTERVENTION

Overall, postpartum women in the intervention group had high exposure to the different tools (TABLE 2). The majority of postpartum women were exposed to the ANC Planning Prompt during any ANC visits (96%). For the Risk Referral Card, exposure was almost perfect at the 45-day immunization visit (99%) but dropped to about a quarter at the 10-week immunization visit[10] (27%). Finally, exposure to the PPFP Counseling Sheet, which was targeted to postpartum women who were assessed with the risk referral card, was very high at both the 45-day immunization visit (97%) and 10-week immunization visit (100%).

As the Home Visit Tracking Log was only used by HEWs as a comprehensive reminder to use the various health tools that existed during different postpartum visits, the Home Visit Tracking Log was not visually shown to clients. As a result, there were no survey questions that were directly related to the exposure to the Home Visit Tracking Log.

WOMEN'S CONTRACEPTIVE INTENTIONS, BEHAVIORS, AND PERCEPTIONS

The distribution of our primary outcome, contraceptive intention, is shown below in **TABLE 3**, along with uptake of modern contraceptive and LARC methods. In all three cases, intention and uptake is high in the sample, and statistically significantly higher for intervention-group women as compared to comparison-group women.

We also assessed three additional outcomes that theoretically would be impacted by exposure to the (re)solve solution set, including accurate fertility awareness, risk of pregnancy assessment and contraceptive self-efficacy. For all three variables, intervention group women scored higher than comparison group women.

[1]Important to note that the number of postpartum women NOT using contraception during their 10-week immunization visit was very small in this sample (n=11).

TABLE 2. **Exposure to (re)solve intervention components (among intervention group women)**

TOOL EXPOSURE	QUESTION ASKED IN SURVEY AND TIMING OF EXPOSURE (NUMBER OF ELIGIBLE WOMEN)	NUMBER OF WOMEN EXPOSED, (%)
ANC Planning Prompt	Provider completed planning prompt at **any ANC visit** (n=162; all postpartum women in intervention group)	156 (96%)
Risk Referral Card	Provider completed card and gave risk score at **45-day immunization visit** (n=76; postpartum women who had a 45-day immunization visit and were not using contraception)	75 (99%)
PPFP Counseling Sheet	Provider talked about contraception at **45-day immunization visit** (n=75, postpartum women who were assessed with risk referral card at 45-day immunization visit)	73 (97%)
Risk Referral Card	Provider completed card and gave risk score at **10-week immunization visit** (n=11, postpartum women who had a 10-week immunization visit and were not using contraception)	3 (27%)
PPFP Counseling Sheet	Provider talked about contraception at **10-week immunization visit** (n=3, postpartum women who were assessed with risk referral card at 10-week immunization visit)	3 (100%)

TABLE 3. **Outcomes in contraceptive intentions, use, and perceptions in comparison and intervention sites**

		COMPARISON N= 159 (49%)	INTERVENTION N= 162 (51%)	TOTAL N= 321 (100%)
Intention to use contraception*	Yes	147 (93%)	157 (98%)	304 (95%)
Reported uptake of modern contraceptive***	Yes	55 (35%)	138 (85%)	193 (60%)
Reported uptake of a LARC method***	Yes	52 (33%)	125 (77%)	177 (55%)
Accurate fertility awareness*	Answered correctly	24 (15%)	45 (28%)	69 (22%)
Pregnancy risk assessment * **	Scored at median, or higher	106 (67%)	137 (85%)	243 (76%)
Contraceptive self-efficacy * **	Scored at median, or higher	68 (43%)	118 (73%)	186 (58%)

Statistically significant at * p<0.05, **p<0.01, ***p<0.001

IMPACT ON OUTCOMES OF INTEREST

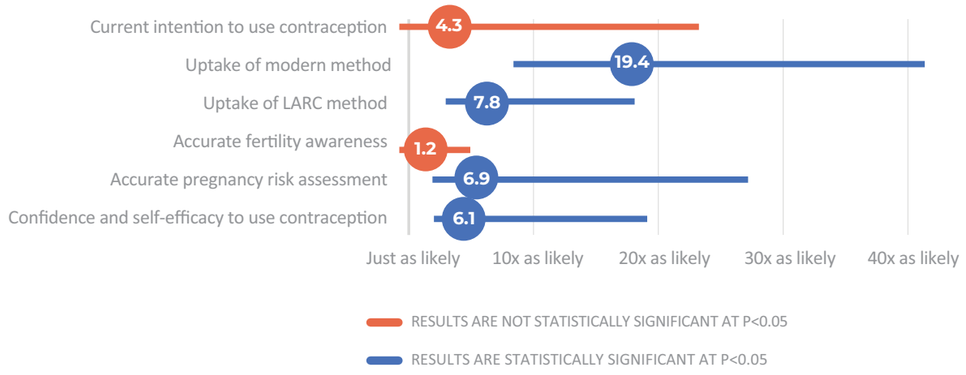
We assessed the impact of being in the intervention group on having a current intention to use modern contraception at any point in the future. We found that intervention women had higher odds in both the unadjusted and adjusted models[11] for the logistic regression analysis of having a current intention to use contraception; however, although this finding was statistically significant in the unadjusted model (OR 2.3 CI 1.3-8.2) it was not in the adjusted model (aOR 4.3, CI 0.8 – 23.0).

For behavioral secondary outcomes, we found a positive and statistically significant association among postpartum women in the intervention and comparison group and uptake of a modern or LARC method in the immediate postpartum period. In both models, and as compared to comparison-group women, women in the intervention group had significantly higher odds of both reported modern use uptake and LARC uptake.

We also looked at three additional outcomes of interest, including accurate fertility awareness, accurate pregnancy risk assessment, and contraceptive self-efficacy. Intervention group women had higher odds of having accurate fertility awareness in both models but neither reached statistical significance. In adjusted models, compared to comparison-group women, intervention group women had 6.9 higher odds of having a high pregnancy risk assessment score (CI 1.7-28.4) and 6.1 higher odds of having high contraceptive self-efficacy score (CI 2.0 – 19.4). **FIGURE 1** shows the potential effects of the (re)solve intervention on these key behavioral outcomes of interest."

FIGURE 1. **The potential effect of the (re)solve intervention on key behavioral outcomes of interest (presentation of adjusted odds ratio and corresponding 95% confidence interval for each behavioral outcome of interest)**

Compared to postpartum women in the comparison group, postpartum women in the intervention group are more likely to exhibit the following behavioral outcomes:



Current intention to use contraception = 4.3 (0.8-23.0)
Uptake of modern method = 19.4 (9.2-41.1)
Uptake of LARC method = 7.8 (3.2-18.8)

Accurate fertility awareness = 1.2 (0.5-3.0)
Accurate pregnancy risk assessment = 6.9 (1.7-28.4)
Confidence and self-efficacy to use contraception = 6.1 (2.0-19.4)

[11] In the attempt to control for key confounding variables among the sample of postpartum women, the adjusted model included key sociodemographic variables (woman's age, education level, marital status, husband's age, parity, socioeconomic status [SES], work status, months postpartum, and facility type at location of interview) and behavioral characteristics (number of ANC visits, location of delivery, and ever use of contraception).

A Health Extension Worker reviews the Risk Referral Card with a postpartum client during an immunization day event. Photo: Sarah Lance

QUALITATIVE FINDINGS

We conducted a total of 28 key informant interviews (KIIs) with two health providers and two HEWs from each of the seven PHCUs implementing the (re)solve intervention.

TABLE 4 shows the key characteristics of the 28 key informant interview (KII) participants.

FACTORS THAT ENABLE AND INHIBIT SUCCESSFUL IMPLEMENTATION

All KII participants had a strong understanding of how to properly implement the different intervention tools. There was near-universal appreciation of the ease of use for the different tools as part of their daily roles and responsibilities. The availability of different tools in the local language, Tigrigna, was lauded as an important element that facilitated the successful implementation of these tools, and an important factor associated with its acceptability and feasibility.

Several key factors were identified by providers as enabling **successful implementation** of each of the tools:

+ **ANC PLANNING PROMPT:** Providers mentioned how the tool was helpful in *raising the awareness and importance of FP* to the ANC clients that they supported. Providers also reported that the card helped reinforce the importance of FP among participating mothers, reminded them of postpartum contraceptive use, and supported them to take charge of their own fertility.

TABLE 4. **Characteristics of KIIs**

AGE (YEARS)	N (%)
<25	4 (14%)
25-34	15 (54%)
≥35	9 (32%)
SEX	
Female	26 (93%)
Male	2 (7%)
EDUCATION	
Diploma	18 (64%)
Certificate	2 (7%)
Bachelor of Science	8 (29%)
PROVIDER TYPE	
Health provider: nurse	3 (11%)
Health provider: midwife	11 (39%)
Health Extension Worker (HEW)	14 (50%)
HEALTH FACILITY TYPE	
Health post	13 (46%)
Health center	13 (46%)
Primary hospital	2 (7%)

[THE ANC PLANNING PROMPT] IS EASY TO USE.
You can easily counsel the mother without difficulty; this is because it is prepared in the local language. Mothers who can read and write can easily understand it by themselves; however, for those mothers who cannot read and write the health professional will read [it to them]. (HEW)

WE ALSO SHOW THEM THE COLORS OF EXPOSURE, NAMELY THE GREEN, YELLOW, AND RED.
We ask them what red indicates, and they reply red indicates a [high risk of being pregnant]...Most of them understand it easily. (HEW)

MOTHERS MAY SAY TO YOU: I WAS BREASTFEEDING AND I AVOIDED PREGNANCY [WITH] MY FIRST CHILD. **We should counsel them. Current and previous pregnancies and postpartum conditions are different; it does not mean that you will avoid pregnancy in the same manner at this time.** (HEW)

+ **RISK REFERRAL CARD:** Providers appreciated how the *use of the color scale* helped mothers to easily assess and understand their pregnancy risk. They noted that the cards were *easy to apply across multiple touchpoints* and visits among postpartum women—reinforcing key FP messages and offering reminders to women at different timepoints.

+ **PPFP COUNSELING SHEET:** The tool provided *practical, real-life examples of pregnancy risk while breast feeding* and was recognized by many providers as an important tool that made *PPFP counseling more effective*. The content added much-needed structure to their sessions with women. It enabled the providers to learn of and address common misperceptions related to pregnancy during the postpartum period and allowed them to provide women with correct and comprehensive information on pregnancy risks and prevention methods. Many providers noted that this tool served to *fill an important gap in PPFP training and counseling* that was not currently being addressed by the Regional Health Bureau (RHB) tools.

+ **HOME VISIT TRACKING LOG:** HEWs were the only provider type that used this tool. With the wide range of health activities that they support, HEWs noted the tool as *useful in helping with client follow-up a comprehensive and structured tool* to facilitate their daily activities.

The providers also identified several **implementation challenges** across the solution set:

+ **STRUGGLES OF DEMANDING WORKLOAD AND HIGH CLIENT VOLUME:** Although most providers described the tools as "easy to use," it was clear that during instances of high workload and client volume there were challenges of proper usage of these tools to all eligible clients, especially during immunization days.

+ **DIFFICULTIES OF USING MULTIPLE TOOLS:** Despite the overall positive experience using the tools, several providers noted the challenges of using different provider-based reference guides and tools as provided by the RHB and multiple organizations. We heard many suggestions to find ways to integrate these tools within routine existing tools.

+ **IMPORTANCE OF FP INFLUENCERS:** We are aware that there are social and gender norms in this setting that limit women's ability to decide on and use contraception in an equitable manner. A few providers noted how the tools likely helped women start important conversations with their husbands.

+ **LIMITATIONS OF OPERATING IN A CONFLICT SETTING:** The (re)solve project experienced major implementation challenges and disruptions during the regional conflict. Providers noted struggling to apply the tools consistently when services were disrupted. Multiple HEWs mentioned not being able to complete their usual home visits during various points of the conflict.

Immunization day at a health facility in Tigray. Photo: Sarah Lance

RECOMMENDATIONS AND CONSIDERATIONS FOR FUTURE DESIGN AND SCALE

Although most providers found the (re)solve intervention tools highly acceptable and easy to use, **opportunities for improvement** were also noted:

+ **MAKE TOOLS STURDIER AND INCREASE FONT SIZE**

+ **INTEGRATE ADDITIONAL REMINDERS**, such as ANC follow up schedules and maternal and child health danger signs to watch for.

+ **INCORPORATE ADDITIONAL SRH INFORMATION FROM CLIENTS**, such as resumption of sexual activity and contraceptive method of choice.

+ **INTEGRATE TOOLS WITH HEALTH SYSTEM:** There was an overriding sentiment expressed by most providers that it is key to find ways to integrate the (re)solve solution set within the existing health system. Proper integration within national health guidelines would streamline the training and deployment of these tools and would help to address the difficulties providers face with working with multiple tools.

Several positive perceptions of impact were offered by providers on why they would advocate for the scale-up of the (re)solve solution set:

+ **IMPROVED QUALITY OF COUNSELING:** Providers highlighted how the tools were beneficial in improving the quality of FP counseling and helped them better connect with their clients.

DURING THE CONFLICT PERIOD WE WERE NOT STABLE
and sometimes we might fail to apply [the (re)solve tools] because it was the issue of life and we were not delivering services freely. (HEW)

ALL THE TOOLS ARE HELPFUL IN COUNSELING AND REMINDING THE WOMEN [TO TAKE] CONTRACEPTIVES
especially if properly integrated with the existing health care system and with routine service. For example, integrating [the Risk Referral Card] with immunization card integrating PPFP Counseling with routine counseling guides of Ministry of Health. I am sure remarkable change can be seen if all the tools [are scaled up] with good follow up. (HEW)

+ **IMPROVED CHANGES IN BEHAVIOR:** Most providers noted the intervention was helpful in raising FP awareness and changing attitudes and intentions and that perceptions of postpartum women towards contraceptives had already started to shift.

+ **IMPROVED HEALTH OUTCOMES:** Most providers believed that the implementation of the tools resulted in increased FP uptake as well as reductions in unintended pregnancies and an improvement in birth spacing.

Discussion

The (re)solve solution set appears to have had a positive association with contraceptive intention and a somewhat larger and significant association with other outcomes like contraceptive use, contraceptive self-efficacy, and pregnancy risk-assessment. Qualitative data indicates that providers had a positive experience with the different (re)solve tools and found them acceptable and easy to implement. This was supported by survey data among postpartum women that showed that exposure to the different (re)solve tools was quite high. Despite the challenges of implementing the (re)solve solution set in the context of COVID-19 and regional conflict, the intervention shows some promising results.

The (re)solve intervention appears to have a positive association with intention to use contraception in the unadjusted model (OR=3.2 [1.3-8.2]), but this association no longer becomes statistically significant in the adjusted model (aOR=4.3 [0.8-23.0]). Intention to use contraception was very high among this study population (93% in comparison group vs. 98% in the intervention group) which means there was not a lot of room for improvement among the intervention group to get results that are statistically significant.

Despite not seeing statistically significant results in the adjusted model for intention to use, the evaluation results suggest that the (re)solve intervention had a significant association with key behaviors of interest—importantly, modern contraceptive use (aOR=19.4 [9.2-41.1]) and LARC use (aOR=7.8 [3.2-18.8]. Although these results are exploratory and limited by the current study design,[12] it appears that the (re)solve intervention is able to move postpartum women along the intention-action continuum to actualize changes in key contraceptive behavior. This can partly be supported by some of the observations in the qualitative interviews with providers which indicate that the behavior change mechanism associated with the (re)solve solution set—tools written in the local language (Tigrigna), multiple touchpoints to reinforce key messages, improved client-provider counseling, and practical risk assessment tools—can contribute to contraceptive uptake. In addition, statistically significant associations with the (re)solve intervention can be seen in both the accurate pregnancy risk assessment (aOR=6.9 [1.7-28.4]) and confidence and self-efficacy for contraception (aOR=6.1 [2.0-19.4]), further supporting the positive findings seen with contraceptive uptake.

A health provider meets with a postpartum client and her baby after reviewing the (re)solve Planning Prompt. Photo: Sarah Lance.

[12] Non-random assignment to the intervention can result in different characteristics between intervention and comparison groups, cross-sectional study design cannot assess causality, short study timeframe can be challenging to detect changes in behavioral outcomes, small sample size can limit power and precision to find key associations, and findings from facility-based surveys cannot be generalized to the community.

...COUNSELING USING THE TOOLS MAKES THE MOTHERS HOPEFUL AND HAPPY, because they understand we are concerned about them. They will say: they educate me, they read the content of the tool for me and register me, so I should use family planning." (Health provider)

[THE (RE)SOLVE TOOLS] IMPROVED COMMUNITY AWARENESS AND KNOWLEDGE. The community belief was not supportive [of] postpartum family planning utilization, but after we start[ed] using the new solutions, uptake of PPFP has increased. (Health provider)

Recommendations

A majority of providers were very supportive of the different (re)solve tools and most believed the intervention was making a difference in improving counseling, behaviors, and FP outcomes and therefore advocated for the scale-up of the (re)solve solution set. Providers liked using the (re)solve tools as they filled gaps in existing counseling, tools, and training related to PPFP. However, with a multitude of health tools and reference guides currently used by health providers -- some approved by the government, others piloted by other INGOs -- future iterations of the (re)solve solution set will need to consider ways to integrate within the existing tools to make this easier for end-users and facilitate ownership by the MOH. The proper integration of the (re)solve solution set within national health guidelines would also streamline the training and deployment of these PPFP tools. Applications of digital solutions, either through mHealth interventions that can digitize and streamline these tools for providers, or creation of an online repository to house MOH-approved and INGO-tested health tools, could also be explored as part of the health system integration and scale-up strategy.

This evaluation of the (re)solve intervention for postpartum Ethiopian women adds to the evidence base of studies from low- and middle-income countries that suggest PPFP interventions can have a positive effect on contraceptive intention and use.[13] It also adds to the evidence that approaches that are designed *with* and *for* women and frontline workers can have a positive effect on contraceptive behavior and uptake.

[13] Blazer & Prata, 2016

The (re)solve Project acknowledges and applauds the diligence, perseverance, and commitment of the implementation team, data collectors, and health providers in the Tigray region. Without them, this intervention and evaluation would not have been possible.

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Cover photo by Sarah Lance

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For the full evaluation report, please visit the (re)solve website: www.pathfinder.org/resolve-ethiopia-project-evaluation