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Program Fidelity and Patient Satisfaction amongWomen Served by the Zika Contraception Access Network Program in Puerto Rico

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Abstract

Background: The Zika Contraception Access Network (Z-CAN) was designed to provide women in Puerto Rico who chose to delay or avoid pregnancy during the 2016–2017 Zika virus outbreak access to high-quality client-centered contraceptive counseling and the full range of reversible contractive methods on the same day and at no cost through a network of trained providers. We evaluated the implementation of Z-CAN from the patient perspective.

Methods: An online survey, administered to a subset of women served by the Z-CAN program approximately 2 weeks after their initial Z-CAN visit, assessed patient satisfaction and receipt of services consistent with select program strategies: receipt of high-quality client-centered contraceptive counseling, same-day access to the contraceptive method they were most interested in after counseling, and no-cost contraception.

Results: Of 3,503 respondents, 85.2% reported receiving high-quality client-centered contraceptive counseling. Among women interested in a contraceptive method after counseling (n = 3,470), most reported same-day access to that method (86.8%) and most reported receiving

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some method of contraception at no cost (87.4%). Women who reported receiving services according to Z-CAN program strategies were more likely than those who did not to be very satisfied with services. Women who received high-quality client-centered contraceptive counseling and same-day access to the method they were most interested in after counseling were also more likely to be very satisfied with the contraceptive method received.

Conclusions: A contraception access program can be rapidly implemented with high fidelity to program strategies in a fast-moving and complex public health emergency setting.

From November 2015 to October 2016, Puerto Rico had the highest number of Zika virus infections in the United States and its territories; 61% of cases were in nonpregnant women (Lozier, 2016). Before the Zika virus outbreak in Puerto Rico, an estimated 138,000 of the 715,000 women of reproductive age (15-44 years) in Puerto Rico did not desire pregnancy and were not using an effective (defined as sterilization, intrauterine device, contraceptive implant, injectable contraceptive, oral contraceptive, contraceptive patch, or contraceptive vaginal ring) contraceptive method (Tepper et al., 2016). Access to contraception in Puerto Rico was limited by reduced availability of the full range of reversible contraceptive methods; high out-of-pocket costs; insufficient provider reimbursement; barriers that limited same-day provision; lack of patient education; and a shortage of providers trained in the insertion, removal, and management of long-acting reversible contraception (LARC), which includes intrauterine devices (IUDs) and contraceptive implants (Tepper et al., 2016). Recognizing the importance of contraception access during the Zika virus outbreak, the National Foundation for the Centers for Disease Control and Prevention, with technical assistance from the U.S. Centers for Disease Control and Prevention and in collaboration with a diverse group of stakeholders and private donors, established the Zika Contraception Access Network (Z-CAN) in Puerto Rico (Lathrop et al., 2018). Contraception was used in Z-CAN as a medical countermeasure to prevent unintended pregnancy among nonsterilized women of reproductive age during the Zika virus outbreak to decrease Zika-related adverse reproductive outcomes, including microcephaly and other severe birth defects (Romero et al., 2018). Z-CAN met an urgent public health need in Puerto Rico by providing women who chose to delay or avoid pregnancy access to client-centered contraceptive counseling and the full range of reversible contractive methods on the same day and at no cost through a network of trained physicians and staff across Puerto Rico (Lathrop et al., 2018).

Given the historical context of coerced sterilization and un-ethical testing of oral contraceptives in Puerto Rico (Boring, Rochat, & Becerra, 1988; Briggs, 1998) and concerns for reproductive coercion, in particular of Latina women (Briggs, 1994; Gomez, Fuentes, & Allina, 2014), it was imperative to incorporate ethical considerations and safeguards into the Z-CAN program. The Z-CAN program offered the full range of reversible contraceptive methods approved by the U.S. Food and Drug Administration to ensure that women had a choice among all methods. The program also trained Z-CAN physicians and staff to provide client-centered contraceptive counseling through a shared decision making model to ensure that women were able to make an autonomous choice of a method that best met their reproductive needs. The Z-CAN program provided proctoring and mentorship to Z-CAN physicians and staff after training to ensure competency in delivering high-quality client-centered contraceptive counseling (Lathrop et al., 2018). Additionally, a safety net was

developed to ensure access to LARC removal at no cost after the program's end (Romero et al., 2018).

It is recommended that quality assurance processes (e.g., assessment of adherence to medical standards of care and client feedback) are routinely incorporated into contraception programs to prevent coercion (World Health Organization, 2017). As a part of Z-CAN's quality assurance efforts, a patient survey was conducted among a subset of women served by the program. We summarize findings from the patient survey that assessed satisfaction and receipt of services according to the Z-CAN program strategies of high-quality client-centered contraceptive counseling, same-day access to the contraceptive method the woman was most interested in after counseling, and receipt of no-cost contraception.

Methods

Z-CAN was developed to address gaps in contraception access and service provision in Puerto Rico to reduce adverse Zika-related reproductive outcomes during the outbreak. Nonsterilized women of reproductive age were eligible to receive Z-CAN services. A total of 153 physicians were trained and the Z-CAN program was implemented at 139 clinics, including private practices, community health centers (CHCs), academic clinics, and public health clinics, across all five public health regions and 69% of municipalities in Puerto Rico between April 2016 and September 2017 (Lathrop et al., 2018; Romero et al., 2018). The number of initial Z-CAN visits by month rapidly increased between August 2016 and March 2017 (Romero et al., 2018), reflecting the program's rapid scale up; thereafter, the number of initial Z-CAN visits declined each month until the program end date. In total, the program served more than 29,000 women.

Women aged 18 years or older participating in the Z-CAN program were invited on a rolling basis to complete a 10-minute self-administered online survey approximately 2 weeks after their initial Z-CAN visit until approximately 3,200 responses were received. The sample size was based on power calculations to assess contraception continuation rates at 12 months, a sub-sequent Z-CAN monitoring and evaluation activity planned to be linked with the patient satisfaction survey. Data collection for the patient satisfaction survey occurred from October 2016 to July 2017. The survey assessed women's perceptions of whether they received each of the following Z-CAN strategies: (1) high-quality client-centered contraceptive counseling; (2) same-day access to the contraceptive method they were most interested in after counseling; and (3) no-cost contraception. Perception of the quality of contraceptive counseling was measured using four items from the validated Interpersonal Quality of Family Planning Care scale (Dehlendorf, Fox, Ahrens, Gavin, & Hessler, et al., 2017a; Dehlendorf, Henderson, Vittinghoff, Steinauer, & Hessler, 2018a). Women were asked to rate their provider using a 5-point Likert scale ranging from 1 (poor) to 5 (excellent) on each of the following items: respecting me as a person, letting me say what mattered to me about my birth control method, taking my preferences about my birth control seriously, and giving me enough information to make the best decision about my birth control method. Receipt of high-quality client-centered contraceptive counseling was defined as rating every item of the 4-item scale as excellent or very good. Same-day access to the contraceptive method women were most interested in after counseling was measured by asking: "After discussing

contraception options during your Z-CAN visit, which contraceptive method were you most interested in getting?" and "Did you get this method during your visit?" Women who reported yes to the latter question were coded as reporting receipt of same-day access to the method they were most interested in after counseling. Receipt of no-cost contraception was assessed by asking: "If you received a contraceptive method from Z-CAN, were you asked to pay for your method?" Women who reported no were coded as reporting receipt of no-cost contraception; women who reported yes or "I did not receive a contraception.

The survey also assessed women's satisfaction by asking: "Overall, how satisfied are you with the service(s) you were given at this clinic?" and "If you received a contraceptive method from Z-CAN were you satisfied with the method you received?" Both satisfaction questions used a 3-point satisfaction scale (not at all satisfied, somewhat satisfied, and very satisfied). Other patient experiences were assessed, including the main reason women wanted to prevent pregnancy, important factors considered when choosing a contraception method, and among those who received a LARC device, receipt of information on where to go for device removal.

The survey was administered in Spanish using Survey Monkey online software. No personal identifying information was collected. Unique identification numbers were used to merge survey responses with clinical encounter data (e.g., clinic type, patient demographic characteristics, reproductive health history including contraceptive use before the initial Z-CAN visit, contraceptive method provided at the visit, and, among women not receiving a method, the primary reason why).

Z-CAN-trained clinic staff informed women about the patient satisfaction survey at the time of Z-CAN enrollment and collected contact information from women who did not opt out of being contacted for future surveys. These women were invited to participate in the survey via email or text message, based on their stated preference. Women without online access could complete the survey by phone with a Z-CAN program staff member; one woman completed the survey via phone. Up to three outreach attempts were made to encourage participation. Respondents received a US\$10 electronic gift card as a token of appreciation. The U.S. Centers for Disease Control and Prevention determined the patient satisfaction survey to be nonresearch public health practice and thus did not require institutional review board review.

Of the 9,834 women invited to participate, 3,503 (36%) responded. We compared baseline characteristics of women (collected during initial Z-CAN visits) for survey respondents with nonrespondents. We examined the extent to which participants reported receiving services consistent with select Z-CAN program strategies, overall, and by respondent characteristics. Receipt of high-quality client-centered contraceptive counseling was examined among all survey respondents (n = 3,503). Receipt of same-day access to the contraceptive method the woman was most interested in after counseling and receipt of no-cost contraception were examined among survey respondents interested in a contraceptive method after counseling (n = 3,470). We also examined satisfaction with services among all respondents and satisfaction with the contraceptive method received among those receiving a method at the

initial Z-CAN visit (n = 3,357). We used χ^2 tests to determine differences in outcomes by respondent demographic and reproductive health characteristics. When examining contraceptive method use before the initial Z-CAN visit and the contraceptive method received at the initial Z-CAN visit, contraceptive methods were categorized by level of effectiveness based on the percentage of women who experienced an unintended pregnancy within the first year of typical use of each contraceptive method. Last, we examined the associations between receipt of services according to Z-CAN program strategies and satisfaction with services and satisfaction with the contraceptive method received, calculating prevalence ratios (PRs) and 95% confidence intervals (CIs). Potential confounders were also considered by examining characteristics associated with Z-CAN strategies and patient satisfaction, but not in the causal pathway. We used SAS-callable SUDAAN version 11.0.0 to conduct all analyses to account for clustering of patients within clinic–provider dyads.

Results

Respondents differed from nonrespondents by age, education, insurance status, clinic type, and level of effectiveness of the method received at the initial Z-CAN visit. Compared with nonrespondents, respondents overall were older (55% of respondents were age 25 years vs. 52% of nonrespondents) and more educated (68% of respondents had a college degree or higher vs. 61% of nonrespondents), had private insurance (46% of respondents vs. 40% of nonrespondents), and received Z-CAN services at a private clinic (75% of respondents vs. 71% of nonrespondents). A greater proportion received a most effective contraceptive method (IUD or implant) during their visit (72% of respondents vs. 66% of nonrespondents) (data not shown).

Among survey respondents (n = 3,503), the majority were age 18 to 24 or 25 to 34 years of age, had a college degree or higher, were married or in a partnered relationship, and had private or public insurance (Table 1). The majority of respondents received Z-CAN services at a private clinic and more than one-half reported at least one prior birth. When asked about the main reason they wanted to avoid pregnancy at the time of the survey, the most commonly reported responses were do not want to have a baby now, followed by cannot afford a baby now, and worried about the Zika virus. Before the initial Z-CAN visit, the majority of respondents reported either not using contraception or using a least effective method (condoms, withdrawal, fertility awareness-based methods, or spermicides). At the initial Z-CAN visit, nearly all women received a most effective (IUD or implant) or moderately effective (injectable, pills, patch, or ring) method. Of women receiving an IUD or implant (n = 2,523), the majority (78.2%) reported that they were given information on where to go to have their device removed (data not shown). Of women who did not receive a contraceptive method at the initial Z-CAN visit (n = 146), the most common reasons reported in the clinical encounter data by Z-CAN physicians included the woman was undecided or not ready to choose (32.2%), the woman may be pregnant (28.8%), and the desired method was out of stock (13.0%) (data not shown).

Overall, a high proportion (85.2%) of respondents reported receiving high-quality clientcentered contraceptive counseling (Table 2). Among women interested in a contraceptive

method after counseling (n = 3,470), most reported same-day access to that method (86.8%) and receipt of no-cost contraception (87.4%).

Patient perception of the quality of contraceptive counseling received differed (p < .05) by age and insurance status, with younger women (18–24 years of age) and those with no insurance reporting lower proportions of high-quality client-centered counseling (Table 2). Reported receipt of all three program strategies differed (p < .05) by the contraceptive method women were most interested in after contraceptive counseling. Specifically, women who reported interest in no method after counseling reported the lowest proportion of high-quality client-centered counseling. Further, women most interested in the patch after contraceptive counseling reported the lowest to that method, and receipt of no-cost contraception was lowest for women interested in after counseling. Same-day access to the method the woman was most interested in after counseling and receipt of no-cost contraception also differed (p < .01) by clinic type. Reported receipt of both strategies was lowest for women receiving services at a CHC or public health clinic and highest for those receiving care at an academic or private clinic.

Among women interested in a contraceptive method after counseling who did not report same-day access to that method (n = 457), the methods women were most interested in were the hormonal IUD (26.0%), the implant (14.9%), and the copper IUD (11.4%) (data not shown). When asked what method they did receive, 42.9% reported some method (most commonly condoms only and pills), 9.6% (n = 44) reported no method, and the remainder had missing data for this survey question. Among the 44 women who reported receiving no method, common reasons reported by women included: I wanted to talk to my friend, relative, or partner first (27.3%); pregnant or may be pregnant (22.7%); and the method I wanted was not available (15.9%). Overall, the majority of respondents reported being very satisfied with the services received (88.3%) (Table 3). Satisfaction with services varied (p < .05) by age and level of effectiveness of the contraceptive method received at the initial Z-CAN visit. Specifically, satisfaction with services was lowest for younger women (18–24 years of age) and for women who received no method.

Among women who received a contraceptive method at the initial Z-CAN visit (n = 3,357), overall, the majority reported being very satisfied with the method received (83.2%) (Table 3). Satisfaction with the contraceptive method received varied (p < .01) by the woman's main reason to avoid pregnancy at the time of the survey and the level of effectiveness of the method received. Method satisfaction was greatest for women who reported being worried about Zika virus as their main reason to avoid a pregnancy and lowest for women who received a most effective method at the initial visit and lowest for women who received a least effective method. Among women who received a least effective method (n = 88), 61.3% reported that they received the method they were most interested in after counseling and 33.0% did not receive the method they were most interested in after counseling (data not shown).

When examining the associations between receipt of services according to Z-CAN program strategies, satisfaction with services, and satisfaction with the contraceptive method received, women who reported high-quality client-centered contraceptive counseling were

more likely than those who did not to report being very satisfied with services (96.9% vs. 54.5%; PR, 2.49; 95% CI, 2.23–2.77) and very satisfied with the contraceptive method received (90.6% vs. 54.8%; PR, 2.28; 95% CI, 2.04–2.55) (Table 4). Women who reported same-day access to the method they were most interested in after counseling were also more likely than those who did not to report being very satisfied with services (93.8% vs. 78.2%; PR, 1.15; 95% CI, 1.09–1.21) and very satisfied with the method received (89.2% vs. 54.8%; PR, 1.65; 95% CI, 1.43–1.89). Receipt of no-cost contraception was only associated with satisfaction with services; women who reported no-cost contraception were more likely than those who did not to be very satisfied with services (94.1% vs. 77.7%; PR, 1.21; 95% CI, 1.12–1.31).

Discussion

Our findings demonstrate that the Z-CAN program was implemented with high fidelity to program strategies. The majority (>85%) of survey respondents reported receiving high-quality client-centered contraceptive counseling, same-day access to the contraceptive method they were most interested in after counseling, and no-cost contraception. We found little variation by respondent characteristics, suggesting that women served by Z-CAN received services aligned with program strategies regardless of background characteristics. Patient perception of the quality of contraceptive counseling did differ by the woman's age and insurance status, with younger women and those without insurance reporting lower levels of high-quality client-centered counseling. However, the magnitude of the differences was relatively small, and proportions were still high, with 8 of 10 young and uninsured women reporting receipt of high-quality client-centered contraceptive counseling.

Same-day access to the method the woman was most interested in after counseling and receipt of no-cost contraception differed by clinic type, with reported receipt of both being lowest for women receiving services at a CHC or public health clinic and highest for those receiving care at an academic or private clinic. These findings likely reflect major shifts in contraception service provision experienced by public sector clinics as a result of the Z-CAN program. Although family planning is a required health service at CHCs, before Z-CAN, there was high variability in the scope of services offered and many patients were referred to other clinics for care. Although all Z-CAN physicians and clinic staff were trained and proctored to provide services according to Z-CAN program strategies, public sector clinics may have experienced greater issues consistently integrating select program strategies into their clinic workflow. Receipt of each program strategy also varied by the contraceptive method women were most interested in after contraceptive counseling. Women who reported interest in no method after counseling reported the lowest proportion of highquality client-centered counseling. Women less pleased with the client centeredness of their counseling experience may have been more hesitant to initiate a contraceptive method. Another study has found that the quality of interpersonal care influences contraceptive use and that patient-centered communication (i.e., communication that emphasizes treating patients as individuals, including being responsive to their needs and preferences) facilitates women finding a method aligned with their preferences (Dehlendorf et al., 2016). Same-day access to the method the woman was most interested in after counseling was lowest for women most interested in the patch and copper IUD. Program challenges securing and

keeping large quantities of these methods stocked likely explain such findings. Despite variability, however, same-day access to the patch and copper IUD remained high (>85%).

High levels of patient satisfaction were also reported. Because the program strategies were incorporated into Z-CAN to ensure high-quality services, it is not surprising that women who received services aligned with the program strategies were more likely than those who did not to be very satisfied with Z-CAN services. Women who received high-quality client-centered contraceptive counseling and same-day access to the method they were most interested in after counseling were also more likely to be very satisfied with their contraceptive method. Another study has also found that shared decision making during contraceptive counseling increases the likelihood of patient satisfaction with their contraceptive method, compared with counseling interactions that are provider driven (Dehlendorf, Grumbach, Schmittdiel, & Steinauer, 2017b).

Although the Z-CAN program was designed to offer contraception to women who chose to prevent pregnancy during the Zika virus outbreak, we found a desire for family planning beyond the public health threat of the Zika virus. When asked to report the primary reason they chose to avoid pregnancy to better understand their motivations to accessing contraception, nearly one-half of respondents reported that they do not want to have a baby now and nearly one-quarter reported that they cannot afford a baby now; fewer reported that they were worried about Zika virus. These findings are consistent with qualitative data collected from women and men of reproductive age in Puerto Rico during the early phase of Z-CAN to inform the development of a health communication strategy. Those data found that women reported the economic crisis in Puerto Rico as a primary reason to prevent pregnancy and that Zika virus was a less considered factor when couples discussed pregnancy prevention (August et al., 2020). Other investigators have acknowledged how the Zika virus epidemic in Puerto Rico exposed failures in socioeconomic policies and protections of sexual and reproductive health rights in Puerto Rico (Rodriguez-Diaz, Garriga-Lopez, Malave-Rivera, & Vargas-Molina, 2017). Although the Zika virus epidemic in Puerto Rico put a spotlight on the role of contraception as a primary prevention strategy to decrease the number of unintended pregnancies affected by Zika virus infection and provided support for the development of a contraception access program, sustaining contraception access services beyond the threat of the Zika virus may address the ongoing reproductive health needs of women and families in Puerto Rico.

Although our analysis showed that the majority of women who received a LARC reported receiving information about how to access removal services, approximately 2 out of 10 did not report receiving such information, highlighting the importance of continued communication efforts to facilitate women accessing no-cost LARC removal once ready to have their device removed. Z-CAN was developed as a removal inclusive program. Women enrolled in Z-CAN should have received information at their initial visit that no-cost removal for a LARC device was included as part of the program. A safety net was established that will operate through 2027 to ensure that women who participated in Z-CAN and chose a LARC method have access to no-cost LARC removal. The safety net included bundled LARC insertion and removal reimbursement at the time of insertion to cover future removal costs and ongoing communication efforts (e.g., website with Z-CAN clinic locator,

hotline, email, Facebook page) to assist women with finding a Z-CAN provider for no-cost LARC removal (Romero et al., 2018).

Importantly, receipt of high-quality client-centered contraceptive counseling, our measure to ensure patients' experiences and preferences were prioritized during family planning care over providers' experiences and preferences, did not differ by the type of clinic where women received services (i.e., CHC, private clinic, academic clinic, or public health clinic). The Z-CAN program established reimbursement for participating Z-CAN physicians, which covered client-centered contraceptive counseling; provision of contraceptive methods; and, for LARC methods, IUD and implant insertion and removal. The reimbursement amount varied and was highest for physicians inserting LARC methods. Although federally funded CHC clinics providing Z-CAN services received the full range of contraceptive methods at no cost to the clinic or patients, physicians providing services at CHC clinics did not receive a Z-CAN reimbursement for their services. Because of this, we were concerned that women served by providers in non-CHC clinics may have felt pressured into choosing a LARC method and, as a result, would be less satisfied with their experience compared with women served by CHC providers. In our sample, it was reassuring that there were no differences in satisfaction or patient perception of the client centeredness of contraceptive counseling received by clinic type.

Our assessment has many strengths. Women served by the Z-CAN program were invited to participate in the satisfaction survey outside of the clinical encounter to decrease the potential for social desirability error. We also selected patient-centered outcomes to emphasize the importance of women's reproductive autonomy (Dehlendorf, Reed, et al., 2018b) and used a validated measure (Dehlendorf, Henderson, et al., 2018a) to assess patient perception of the interpersonal quality of care received.

Our findings are also subject to limitations. Our response rate was low (36%), and respondents differed from nonrespondents (and program participants overall) by several characteristics associated with differences in self-reported receipt of one or more program strategies. As such, we may have overestimated the proportions of women who reported satisfaction and receiving services consistent with program strategies. Although we used a validated scale to assess the perception of the quality of contraceptive counseling received as part of the Z-CAN program, and the scale has been validated in both English and Spanish (Dehlendorf, Fox, et al., 2017a), we did not test the cultural appropriateness of the scale among women in Puerto Rico before its use. However, we did work closely with in-country partners with ethnography experience who reviewed our survey instrument before implementation to ensure relevance and appropriate translations for the Puerto Rican context. Our measurement of no-cost contraception, based on patient self-report, may also be subject to misclassification error because women may have confused a valid charge for an unrelated service with a charge for contraception. When examining the associations between receipt of services according to Z-CAN program strategies and patient satisfaction, unknown confounders may influence results. Last, it has been suggested that patient satisfaction surveys, in general, overstate the quality of health services (Dunsch, Evans, Macis, & Wang, 2018).

Implications for Practice and/or Policy

The Z-CAN program increased the capacity of the health care system in Puerto Rico to provide contraception services by establishing an extensive network of providers across the island trained in providing evidence-based and high-quality care. The program was developed with an emphasis on patient-centered care to ensure that women were able to make autonomous choices that best met their reproductive health needs. Given the potential for reproductive coercion, it was particularly important to conduct quality assurance monitoring. Quality assurance monitoring is ideally an integral part of all programs, but is particularly important for new programs, those that serve potentially vulnerable populations, and those implemented in a fast-moving and complex public health emergency setting. Although there might be a myriad of competing priorities when rapidly designing a program (e.g., in the case of Z-CAN, rapid capacity building among providers, designing supply chain systems, procuring necessary materials quickly, developing communication strategies to create demand for new services), quality assurance is important to ensure program implementation as intended and to adjust program aspects as needed.

Conclusions

The Z-CAN program was designed to increase access to contraception for women in Puerto Rico who chose to prevent pregnancy during the Zika virus outbreak and served more than 29,000 women in 13 months. A survey conducted in a subset of patients suggests the program was implemented with high fidelity to program strategies, which included high-quality client-centered contraceptive counseling, same-day access to the contraceptive method women were most interested in receiving after counseling, and no-cost contraception. Women receiving services according to these strategies were more likely to be very satisfied with services, and women receiving high-quality client-centered contraceptive counseling and same-day access to the method they were most interested in after counseling were more likely to be very satisfied with the contraceptive method received. Findings demonstrate that a contraception program can be rapidly implemented with high fidelity to program strategies in a fast-moving and complex public health emergency setting.

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Table 1

Demographic and Reproductive Health Characteristics of Respondents to a Patient Satisfaction Survey about the Z-CAN Program (N= 3,503)

Characteristic	n	%
Age (years)		
18–24	1,5	92 45.5
25–34	1,4	35 41.0
35	4	76 13.6
Highest level of education		
12 years	1,0	95 31.3
College degree	1,9	69 56.2
Graduate degree	40	04 11.5
Relationship status		
Single	1,3	78 39.3
Married or partnered	2,0	92 59.7
Insurance status		
Private	1,5	93 45.5
Public	1,6	45 47.0
None	1	97 5.6
Type of clinic where Z-CAN services we	re received	
Community health center	6	20 17.7
Private	2,6	34 75.2
Academic	19	98 5.7
Public health	:	51 1.5
Parity		
0	1,4	54 41.5
1	2,0	10 57.4
Main reason want to avoid pregnancy not	w	
Cannot afford to have a baby now	8	19 23.4
Do not want to have a baby now	1,6	69 47.6
Worried about Zika virus	5	87 16.8
Other	3:	20 9.1
Level of effectiveness of contraceptive m	ethod used before ir	nitial Z-CAN visit *
Most	1:	39 4.0
Moderately	93	21 26.3
Least	1,0	63 30.4
None	1,3:	54 38.7
Level of effectiveness of contraceptive m	ethod received at in	itial Z-CAN visit †
Most	2,52	23 72.0
Moderately	74	46 21.3
Least	:	88 2.5
No method received	14	46 4.2

Abbreviation: Z-CAN, Zika Contraception Access Network.

Percentages may not sum to 100 owing to rounding and/or missing data.

Most effective contraceptive methods included intrauterine devices, implants, and partner sterilization. Moderately effective contraceptive methods included injectables, pills, patch, ring, and diaphragm. Least effective contraceptive methods included male and female condoms, withdrawal, sponge, fertility awareness-based methods, and spermicides.

 † Most effective contraceptive methods included intrauterine devices and implants. Moderately effective contraceptive methods included injectables, pills, patch, and ring. Least effective contraceptive methods included condoms only.

Characteristic	High-Quality Client- C Counseling [*]	Jentered Contraceptive	Same-Day Access to Me Interested in after Cour	thod Woman Most seling [†] ‡	No-Cost Contr	aception ^{‡,§}
	N/u	%	N/u	%	N/u	%
Overall	2,984/3,503	85.2	3,013/3,470	86.8	3,033/3,470	87.4
Age (years)						
18–24	1,315/1,592	82.6''	1,349/1,579	85.4	1,362/1,579	86.3
25-34	1,257/1,435	87.6	1,265/1,422	89.0	1,267/1,422	89.1
35	412/476	86.6	399/469	85.1	404/469	86.1
Highest level of education						
12 years	905/1,095	82.6	905/1,085	83.4	909/1,085	83.8
College degree	1,691/1,969	85.9	17,30/1,951	88.7	1,745/1,951	89.4
Graduate degree	355/404	87.9	350/399	87.7	348/399	87.2
Relationship status						
Single	1,176/1,378	85.3	1,179/1,365	86.4	1,183/1,365	86.7
Married or partnered	1,777/2,092	84.9	1,805/2,072	87.1	18,19/2,072	87.8
Insurance status						
Private	1,375/1,593	86.3 11	1,381/1,575	87.7	1,380/1,575	87.6
Public	1,389/1,645	84.4	1,401/1,633	85.8	1,421/1,633	87.0
None	160/197	81.2	170/196	86.7	169/196	86.2
Type of clinic where Z-CAN services were received						
Community health center	526/620	84.8	507/618	82.0''	519/618	$84.0^{\prime\prime}$
Private	2,246/2,634	85.3	2,291/2,608	87.8	2,301/2,608	88.2
Academic	171/198	86.4	174/194	89.7	175/194	90.2
Public health	41/51	80.4	41/50	82.0	38/50	76.0
Parity						
0	1,232/1,454	84.7	1,246/1,438	86.6	1,255/1,438	87.3
1	1,718/2,010	85.5	1,732/1,993	86.9	1,745/1,993	87.6
Main reason want to avoid pregnancy now						

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Table 2

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Characteristic	High-Quality Client- (Counseling [*]	Centered Contraceptive	Same-Day Access to M Interested in after Cou	ethod Woman Most nseling ^{†‡}	No-Cost Contra	aception ^{‡,§}
	N/n	%	N/n	%	N/n	%
Cannot afford to have a baby now	705/819	86.1	735/814	90.3	729/814	89.6
Do not want to have a baby now	1,466/1,669	87.8	1,475/1,653	89.2	1,489/1,653	90.1
Worried about Zika virus	531/587	90.5	521/585	89.1	535/585	91.5
Other	278/320	86.9	278/311	89.4	276/311	88.7
Method woman most interested in after contraceptive counseling						
Hormonal IUD	1,241/1,371	90.5	1,252/1,371	91.3''	1,250/1,371	$91.2^{//}$
Copper IUD	361/413	87.4	361/413	87.4	381/413	92.3
Implant	723/798	90.6	730/798	91.5	740/798	92.7
Injection/shot	96/109	88.1	100/109	91.7	98/109	89.9
Pills	310/360	86.1	335/360	93.1	328/360	91.1
Ring	105/114	92.1	109/114	95.6	107/114	93.9
Patch	31/36	86.1	31/36	86.1	34/36	94.4
Condoms (only)	48/58	82.8	51/58	87.9	49/58	84.5
No method	20/33	60.6				
Level of effectiveness of contraceptive method received at initial Z-CAN visit **						
Most	2,181/2,523	86.4	2,355/2,507	93.9#	2,310/2,507	92.1 [#]
Moderately	619/746	83.0	606/734	82.6	659/734	89.8
Least	71/88	80.7	52/85	61.2	64/85	75.3
No method received	113/146	77.4	0/144	0.0	0/144	0.0
Abbreviations: IUD, intrauterine device; Z-CAN, Zika Contrace	sption Access Network.					
relicelledes esumated with impound hara invitation.						

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 $_{\star}^{*}$. Defined as rating every item of a 4-item interpersonal quality of family planning care scale as excellent or very good.

 \dot{f} Defined as receiving the contraceptive method the woman was most interested in, after counseling, on the same-day as the visit.

 \sharp Among women who were interested in a contraceptive method after counseling.

 $\overset{g}{}_{\mathcal{D}}$ Defined as receiving a contraceptive method at no cost.

|p| < .01 based on χ^2 tests of differences, excluding missing data.

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 $\sqrt[n]{p}$ < .05 based on χ^2 tests of differences, excluding missing data.

Statistical testing not conducted.

** Most effective contraceptive methods included intrauterine devices and implants. Moderately effective contraceptive methods included injectables, pills, patch, and ring. Least effective contraceptive methods included condoms only.

Table 3

Satisfaction with Z-CAN Services and Satisfaction with Contraceptive Method Received, Overall and Stratified by Respondent Demographic and Reproductive Health Characteristics

Characteristic	Very Satisfied with	Z-CAN Services	Very Satisfied with Contr-	aceptive Method Received*
	N/n	%	N/n	%
Overall	3,093/3,503	88.3	2,793/3,357	83.2
Age (years)				
18–24	1,382/1,592	86.8 $^{\uparrow}$	1,242/1,528	81.3
25-34	1,285/1,435	89.5	1,177/1,380	85.3
35	426/476	89.5	374/449	83.3
Highest level of education				
12 years	950/1095	86.8	834/1036	80.5
College degree	1,744/1,969	88.6	1,608/1,907	84.3
Graduate degree	370/404	91.6	325/382	85.1
Relationship status				
Single	1,216/1,378	88.2	1,084/1,320	82.1
Married or partnered	1,847/2,092	88.3	1,683/2,006	83.9
Insurance status				
Private	1,423/1,593	89.3	1,281/1,534	83.5
Public	1,445/1,645	87.8	1,299/1,566	83.0
None	164/197	83.2	155/189	82.0
Type of clinic where Z-CAN services were received				
Community health center	548/620	88.4	472/573	82.4
Private	2,239/2,634	88.4	2,130/2,543	83.8
Academic	174/198	87.9	157/196	80.1
Public health	42/51	82.4	34/45	75.6
Parity				
0	1,281/1,454	88.1	1,147/1,387	82.7
1	1,780/2,010	88.6	1,613/1,931	83.5
Main reason want to avoid pregnancy now				
Cannot afford to have a baby now	744/819	90.8	668/793	84.2 ^{t}

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Characteristic	Very Satisfied with	Z-CAN Services	Verv Satisfied with Contrs	 centive Method Received*
	N/n	%	n/N	%
Do not want to have a baby now	1,514/1,669	90.7	1,370/1,600	85.6
Worried about Zika virus	540/587	92.0	506/557	90.8
Other	290/320	90.6	247/305	81.0
Level of effectiveness of contraceptive method received at initial Z-CAN visit S				
Most	2,269/2,523	89.9 <i>‡</i>	2,156/2,523	85.5 [‡]
Moderately	642/746	86.1	586/746	78.6
Least	70/88	79.5	51/88	58.0
No method received	112/146	76.7	I	Ι
Abbreviation: Z-CAN, Zika Contraception Access Network.				
Percentages estimated with missing data included.				
* Among women who received a contraceptive method at the initial Z-CAN visit.				

 $\overset{r}{/}p<.05$ based on χ^2 tests of differences, excluding missing data. $t^{\sharp}p$ < .01 based on χ^2 tests of differences, excluding missing data.

methods included condoms only.

Knost effective contraceptive methods included intrauterine devices and implants. Moderately effective contraceptive methods included injectables, pills, patch, and ring. Least effective contraceptive

Table 4

Association between Receipt of Services According to Z-CAN Program Strategies and Satisfaction with Services and Satisfaction with Contraceptive Method Received

70	atisfied with §	Services	Very Satisfied with Contr	aceptive Method Received
0%) N/N		PR	n/N (%)	PR
High-quality client-centered contraceptive counseling $ eq (n = 3,50) $	(203)		(n = 3,357)	
Yes 2,891/2,9	,984 (96.9)	2.49 (2.23–2.77)	2,600/2,871 (90.6)	2.28 (2.04–2.55)
No 157/28:	88 (54.5)	Referent	149/272 (54.8)	Referent
Same-day access to method woman most interested in after counseling \sharp . $(n = 3, 47)$	(0/1		(n = 3, 326)	
Yes 2 826/3 0	: 013 (93.8)	1.15 (1.09–1.21)	2 688/3 013 (89.2)	1.65 (1.43–1.89)
244/31:	:12 (78.2)	Referent	91/168 (54.2)	Referent
No-cost contraception $\$$ // $(n = 347)$	70)		(n = 3326)	
Yes 2,853/3,0	(,033 (94.1)	1.21 (1.12–1.31)	2,710/3,033 (89.4)	1.02(0.91 - 1.15)
No 143/18	84 (77.7)	Referent	35/40 (87.5)	Referent

t Defined as receiving the contraceptive method the woman was most interested in, after counseling, on the same day as the visit.

 $\overset{\ensuremath{\mathcal{S}}}{}_{\ensuremath{\mathsf{M}}}$ Among women who were interested in a contrace ptive method after counseling.

 ${{/\!\!\!/}} \ensuremath{\mathsf{Defined}}$ as receiving a contraceptive method at no cost.

 $\dot{\tau}$ befined as rating every item of a 4-item interpersonal quality of family planning care scale as excellent or very good.