Impact of free pregnancy test kits on family planning use: Evidence from a randomized experiment in Madagascar

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Background:
Use of modern family planning (FP) methods can substantially reduce maternal mortality and morbidity, particularly in developing countries, by preventing unintended pregnancies. It can also reduce child mortality through improved birth spacing. But in Madagascar, as in the rest of Sub-Saharan Africa, use of FP remains low. Many countries use community health workers (CHWs) to provide FP education and supplies such as oral pills, injectable contraceptives, and condoms, in order to expand FP services into remote and rural areas. One constraint to increasing FP use is that CHWs are required to ascertain that a woman is not pregnant before providing hormonal contraceptives, either by offering such methods only when she is menstruating or by asking the client a set of six-questions that are part of a pregnancy checklist.

Madagascar is among more than a dozen countries in Africa where policies require health workers to use the checklist to rule out pregnancy for potential FP clients who ask for oral and injectable contraceptives. But anecdotal evidence suggests that many CHWs in Madagascar trained to use the checklist do not trust it and, as a result, deny contraceptives to women unless they are menstruating at the time that they seek these services. In addition, many women categorized as "could be pregnant" by the checklist are actually not pregnant. In this context, providing CHWs with pregnancy test kits has the potential to increase the number of FP clients that CHWs supply contraceptives to. Pregnancy test kits may both address the limitations of the checklist and potentially attract women wanting to confirm their pregnancy status, creating an opportunity for FP counseling. Costs of pregnancy test kits have decreased considerably in recent years, making them an increasingly affordable alternative to the checklist in low-income countries.

Design and methodology:
This study used a randomized controlled design to assess whether providing CHWs in Madagascar with free pregnancy test kits increases the number of FP clients that they supply contraceptives to. The main outcome of interest was the number of new hormonal contraceptive clients per CHW. A total of 622 CHWs in three regions of Madagascar were randomly assigned, at the individual level, to either a group that was offered free pregnancy test kits and training on their use (treatment group) or a control group that was offered neither. Data on FP services provided by the CHWs were collected for the four months following the training. We estimated the effect of the intervention by using weighted least squares regression analysis including month fixed effects. Probability weights were created to adjust for potential non-response bias due to the fact that not all CHWs handed in their outcome data.

Table 1 shows that 64% of the treatment group CHWs and 72% of the control group CHWs are female. The average age of the CHWs is 43 years. Nearly all are farmers and the average educational attainment is 7th class (equivalent to a 5th grade education in the United States). CHWs reported living, on average, approximately two hours away from the nearest health center

(i.e., a 118- to 130-minute walk). The average CHW had worked as a CHW about 5-6 years and had last been trained to administer injectable contraceptives 3-4 years ago.

TABLE 1: BASELINE CHARACTERISTICS OF CHWS

	Treatment group	Control group	*p-value*	No. of observations
Baseline characteristics (selected)				
Age (years)	43.0	43.4	*0.49*	531
% who are female	64%	72%	*0.07*	535
Highest class attained	7.2	7.3	*0.62*	535
Currently uses family planning	69%	70%	*0.85*	420
Distance to nearest health center (minutes walking)	118.0	129.9	*0.08*	534
Number of months working as CHW	65.1	69.8	*0.19*	535
Number of months since training on injectables	36.1	37.8	*0.42*	498

Results:

The primary research question was: does offering free pregnancy test kits to CHWs for distribution to clients, along with training on how to use these tests, increase the number of new hormonal contraceptive clients that they supply contraceptives to? Secondary analyses were also conducted to better understand the pathways through which the intervention may have increased the number of FP clients. Secondary analyses focused on whether the intervention increased the number of individual FP counseling sessions and whether the intervention affected the frequency with which CHWs used the pregnancy checklist.

Offering free pregnancy test kits to CHWs increased the number of new hormonal contraceptive clients per CHW by 0.6 clients per month on average, relative to the control group (Table 2). This represents a 24% increase in the number of hormonal-contraceptive clients supplied with contraceptives in an average month compared to the control group. There are significantly more new clients obtaining injectables among treatment group CHWs, who have 0·4 more new injectable clients per month compared to control group CHWs, representing a 27% increase. The estimated impact on new oral contraceptive clients is smaller and not statistically significant, but the relative effect size is similar in magnitude to injectable clients.

TABLE 2: NUMBER OF NEW HORMONAL CLIENTS SUPPLIED BY CHWS PER MONTH

	Treatment group	Control Group	Difference (T-C)	*p-value*
New hormonal contraceptive clients	3.1	2.5	0.6	*0.021*
New injectable clients	1.9	1.5	0.4	*0.035*
New oral contraceptive clients	1.2	1.0	0.2	*0.190*

(Regression-adjusted means, N=1,554.)

The intervention had no detectable effect on the number of individual FP sessions conducted by the CHWs. Treatment group CHWs conducted 17.4 individual FP sessions per month, compared

to 16.2 sessions per month conducted by control group CHWs (see Table 3). There may exist a difference between the number of FP sessions held by treatment versus control group CHWs which the study was not powered to detect. There was no difference in the number of times that the pregnancy checklist was used.

TABLE 3: NUMBER OF FP SESSIONS AND USE OF THE PREGNANCY CHECKLIST BY CHWS PER MONTH

	Treatment group	Control Group	Difference (T-C)	*p-value*
Individual family planning sessions	17.4	16.3	1.2	*0.286*
Use of the pregnancy checklist	2.5	2.5	0.0	*0.992*

(Regression-adjusted means, N=1,493.)

One notable finding from the baseline survey conducted prior to the intervention is that less than half of CHWs (46%) considered the pregnancy checklist to be reliable – and yet, 94% of CHWs believed they could not provide hormonal contraceptives to non-menstruating women, and 91% of them reported that they had been instructed not to prescribe hormonal contraceptives to non-menstruating women. This indicates that the training on the checklist may not have adequately conveyed that it supersedes the previous policy to provide hormonal methods to menstruating women only.

TABLE 4: CHWS' BELIEFS ABOUT PREGNANCY CHECKLIST

	All CHWs
Has used the pregnancy checklist	94%
Believes the pregnancy checklist is very reliable (on a scale 1 to 5 where 5=very reliable)	46%
Believes s/he can provide oral contraceptives/injectables to non-menstruating women	6%
Instructed not to provide oral contraceptives/injectables to non-menstruating women	91%

Conclusions:

Our findings show that this intervention is a promising approach to increase provision of hormonal contraceptives in countries like Madagascar, particularly in settings where health workers are required to rule out pregnancy for new contraceptive clients but are hesitant or not trained to use the pregnancy checklist. Giving CHWs free pregnancy tests appears to be a promising way to increase utilization of hormonal contraceptives. As pregnancy tests become an increasingly affordable alternative for health care systems in developing countries, community-based distribution programs should consider using the tests as a low-cost addition to the services provided by CHWs.