

## Preventing Cervical Cancer: Stakeholder Attitudes toward fastHPV-Focused Screening Programs in Roi-Et Province, Thailand

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### Introduction

While frequently repeated cytology screening has led to an 80% decline in cervical cancer mortality in the developed world, cervical cancer remains an important public health problem among adult women in developing countries.\* While it is generally agreed that a cytology-based approach fulfills the criteria of an effective screening program (Chumworathayi, B., Limpaphayom, K., Srisupundit S., & Lumbiganon, P., 2006), which includes cost-effectiveness, reduction of incidence of a disease and reduction of morbidity and mortality from a disease (Wellensiek, N., Moodley, M., Moodley J., & Nkwanaayana, N., 2002), such cytology-based cervical cancer-screening programs have largely failed within the developing country context, in part because of an impoverished health care infrastructure, too few trained and skilled professionals, uninformed women who get lost to follow-up and a lengthy turn-around time. Vaccines that prevent or treat HPV acquisition have been recently introduced or are under development and, ultimately, may help resolve this important public health problem. However, large-scale vaccine implementation is still several years away in the countries that need it the most (World Health Organization, 2006). The investigation of screening tests that use fewer resources and offer rapid results has therefore been a priority.

Among these tests, visual inspection with acetic acid (VIA) has proven to be a promising candidate for screening in low-resource settings, because it fulfills the basic criteria of a satisfactory screening test and has demonstrated effectiveness in reducing the incidence of and mortality from cervical cancer (Blumenthal, P. D., Ringers, P., McIntosh, N., & Gaffikin, L.). VIA testing is inexpensive, simple, and can be provided at all levels of the healthcare system by nurses and midwives. Another key advantage of VIA testing is that the results are immediately available. This means that management decisions, especially whether to offer outpatient

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treatment if the cervix is found to be abnormal, can be made during a single visit, a significant benefit in countries where health care facilities are not easily accessible (Sankaranarayanan R., Budukh A.M., & Rajkumar R., 2001). However, there are disadvantages to VIA. First, it is subjective; providers must interpret what they see on the cervix, which can be problematic for nurses trained never to provide treatment without certainty. Moreover, a long period (around two weeks) of provider training is crucial to be able to perform VIA, and additional workshops to sustain skills are also necessary, thus decreasing the cost-effectiveness of the approach. Recent studies have stressed that without high-quality training of providers, continuous quality assurance, and extensive monitoring, VIA programs may fail (Sankaranarayanan, R., Esmey, P.O., Rajkumar, F., Muwonge, R., Swaminathan, R., Shanthakumari, S. Fayette, J.M., & Cherian, J., 2007).

HPV DNA testing, another test with promise in low-resource settings, offers some advantage compared to VIA. HPV testing is more objective and reproducible than VIA and does not depend on the visibility of the squamo-columnar junction of the cervix. It is less demanding in terms of training and quality assurance. Heretofore, the overarching drawbacks of HPV DNA technology have been that it is too costly for use in developing countries and that it involves a lengthy turnaround time, with results not available in a single visit (World Health Organization, 2002). In an attempt to address these issues, Digene (Gaithersburg, MD) has developed *fastHPV*, an HPV DNA test that potentially costs less than US\$5 per kit, can be administered in a static or mobile clinic with no refrigeration, and can get results (for batches of either 24, 48 or 96 samples) in less than 2.5 hours. The swab can be performed by a clinician (cervical swab) or by the women herself (vaginal self-swab), and the test characteristics are believed to be ready for field implementation. Despite indication that the test may be clinically acceptable, no field-based surveys or studies have been published assessing attitudes toward the acceptability of integrating an HPV-based approach into current cervical cancer prevention programs in low-resource settings.

Therefore, prior to a scheduled pilot implementation of the *fastHPV* DNA technology in Roi-Et province, Thailand, in order to assess the most appropriate implementation strategy for this test, this study was conducted to explore preferences and perceived benefits among likely users of the new test in this setting.

## Methods

**Data Gathering.** All data was collected by in-person surveys in Roi-Et province, Thailand. Survey instruments were translated from English into Thai and back-translated to assess accuracy. Surveys were provided to participants at face-to-face meetings in each district of Roi-Et province, Thailand between December 2007 and January 2008. Roi-Et—a northeastern province of Thailand with a population of 1.2 million—was

selected because, since 2000, it has implemented a successful “single-visit” cervical cancer prevention approach (combining VIA and cryotherapy) and has improved coverage from 4.7% in 2000 to the highest coverage in Thailand with over 60% screened. Cervical cancer prevention services had not been successful there in the past, and the current incidence of cervical cancer in Roi-Et is 20 out of 100,000 women per year. The province is 70% rural, and 95% of people are Buddhist (Chumworathayi, B., et al., 2006).

**Participants.** Questionnaires were administered to healthcare providers, trainers, district medical directors and district health officers in their personal district offices and hospitals throughout Roi-Et province. All 8 VIA trainers, 16 district medical directors, 20 district health officers, and 4 colposcopists were surveyed. A total of 80 healthcare providers have been trained to perform VIA in Roi-Et province since 2000. Since somewhat of a professional “revolving door” among healthcare providers in Roi-Et province exists, (many leave because they get married, get a higher paying job in the city, etc.), only 40 healthcare providers were surveyed in this study. It is unknown what percentage of current VIA providers this number is, but it is likely well over 50% (Table 1).

**Questionnaire.** In order to assess perceptions about the fastHPV-inclusive protocols relative to the current cervical cancer screening protocol, participants were provided with five diagrams of five potential fastHPV-inclusive screening plans, labeled Plans A-E. Table 2 summarizes the differences between the five plans (Goldie, S. J., Kim, J. J., & Wright, T. C., 2004). To explore how these plans compared relative to the current plan, participants were asked to assign each plan a ranking from 1 (much less preferable than the current plan) to 5 (much more preferable than the current plan). They were then asked to assign each plan a ranking from 1 (much less beneficial than the current plan) to 5 (much more beneficial than the current plan). To further assess reactions to these fastHPV-inclusive protocols participants were asked to circle which plan of the five that he/she 1) found most or least preferable, and 2) thought would be most or least beneficial in terms of a reduction in incidence and mortality from cervical cancer in his/her district.

**Quantitative Data Analysis.** The data were quantitatively analyzed using Statistical Package for the Social Sciences (SPSS Inc., Chicago). Participants were categorized based on district, occupation, gender, and distance of district to the assigned referral colposcopy clinic. Responses to survey questions, particularly differences in attitudes towards the various approaches, were tested for statistical significance ( $p < 0.05$ ) using two-tailed t-tests, one-way ANOVA tests, and two-tailed chi-square tests.

## Results

### *Comparing Plans A-E with Roi-Et Province's Current Cervical Cancer Screening Program*

When asked how preferable the new plan was in comparison to the current cervical cancer screening protocol, the most common response for the village-based, self-swab plan (E) overall was 5, with 39.8% of respondents viewing Plan E as much more preferable to the current plan (Table 3). Combining this with the 18.2% that viewed Plan E as slightly more preferable, 58% of all respondents found Plan E to be preferable to the current plan. Yet, 28.4% of respondents viewed Plan E as slightly (15.9%) or much (12.5%) less preferable to the current cervical cancer screening program, leaving Plan E with a mean score of 3.58 (still the highest of the five plans). Plan E was preferred relative to the current plan significantly more than the clinic-based, clinician-swab, double-testing plan (A) ( $p < 0.05$ ), the clinic-based, self-swab, double-testing plan (B) ( $p < 0.05$ ), and the clinic-based, self-swab, HPV+ only-testing plan (D) ( $p < 0.05$ ), but not significantly more than the clinic-based, clinician-swab, HPV+ only-testing plan (C) ( $p > 0.05$ ). Although the most common response for Plan C was 3, indicating that the plan was equally preferred to the current plan, 23.9% of respondents viewed Plan C as much more preferable than the current screening plan, leaving the plan with a mean score of 3.34. Notably, Plan B received the lowest mean score of 2.99—the only plan viewed as less preferable than the current screening plan.

When asked to compare each individual plan to the current cervical cancer screening program and to indicate if the plan would be more or less beneficial in decreasing incidence and mortality from cervical cancer, participants expressed a preference for Plan E. The mean score for Plan E was the highest of the five, at 3.70, and the most common response overall for Plan E was 5, with 42.0% of all respondents predicting Plan E to be much more beneficial than their current plan (Table 4). The most common response for Plan D was also 5, with 25.0% of respondents believing the plan to be much more beneficial than their current plan, but 23.9% believing it to be equally as beneficial as the current plan, leaving the plan with an average score of 3.32. The most common rank for all other Plans was 3, indicating that the plans were predicted to be neither more nor less beneficial than the current screening plan. Plan E was perceived as more beneficial than the current plan significantly more than Plan B ( $p < 0.05$ ) and Plan D ( $p < 0.05$ ), but not significantly more than Plan A ( $p > 0.05$ ) or Plan C ( $p > 0.05$ ).

### *Comparing Plans A-E with Each Other*

The village-based, self-swab plan (E) was chosen as the most preferred and most beneficial plan, with 50.6% and 58.3% of respondents choosing Plan E in their respective responses (Figure 1). The clinic-based, clinician-swab, double-testing plan (A) was a distant second, with 24.7% of participants (less than half of those for Plan E) indicating that it was their most preferred plan, and 27.4% (again, less than half of those for

Plan E) predicting it would be the most beneficial plan. Plans B, C and D were infrequently chosen as the most preferred or most beneficial plans of the five.

When asked which plan was the least preferred and least beneficial of the five, respondents most frequently chose Plan A, with 48.3% of respondents believing it to be least preferable and 45.2% of respondents predicting it would be least beneficial in reducing incidence and mortality from cervical cancer in their districts (Figure 2). Plan E came in second, with 23.0% of respondents choosing it as their least preferred plan of the five. Plan E also tied with Plan D as the plan predicted to be the second least beneficial plan. Notably, Plan E was ranked higher as the “least preferred” plan (23.0%) than as the “least beneficial” plan (17.9%).

**Occupation Analysis:** Occupations were split into the broader categories of field-oriented (officers, providers, trainers) versus hospital-oriented (colposcopists, directors). Hospital-oriented professionals were more evenly split between Plans A and E for most preferred plan, with 30.0% choosing Plan A and 45.0% choosing Plan E, while 52.2% of field-oriented respondents chose Plan E as the most preferred plan and only 23.2% chose Plan A (Table 5). For most beneficial plan, hospital-oriented professions were most evenly split again, with 40% choosing Plan A and 40.0% choosing Plan E as the most beneficial plan of the five. In contrast, 60.9% of field-oriented respondents thought Plan E would be most effective, and only 21.2% preferred Plan A. Hospital-oriented respondents were no more definitive about which plan they found least preferable and least beneficial. Forty-five percent chose Plan A and 30.0% chose Plan E as the least preferable plan, in contrast to a 49.3% (Plan A) to 20.3% (Plan E) difference for field-oriented respondents. Furthermore, 35.0% chose Plan A and 30.0% chose Plan E as the least beneficial plan, in contrast to a 46.4% (Plan A) to 13.0% (Plan E) difference for field-oriented respondents.

**Self-Swab versus Clinician-Swab:** Plans B, D, and E called for the self-swab version of the fastHPV DNA test, while Plans A and C called for the clinician-swab test. When asked which plan of the five they found most preferable, 59.6% of participants chose a plan that incorporated the self-swab version of the fastHPV DNA test, while 40.4% chose a clinician-swab inclusive plan (Table 6). A two-tailed chi-square test was performed and indicated that this was not a significant difference. Moreover, 62.9% of participants responded that the most beneficial plan in reducing incidence and mortality from cervical cancer was a self-swab inclusive plan, a significantly higher number ( $p < 0.05$ ) than the remaining 37.1% of respondents who chose a clinician-swab inclusive plan.

When broken into occupation category, field-oriented respondents definitely chose a self-swab based plan as their most preferred and most beneficial plan. Hospital-oriented respondents were less decisive, with 50% choosing a self-swab based plan and 50% choosing a clinician-swab based plan as the most preferred plan. Moreover, 45.0% of these hospital-

oriented respondents chose a self-swab based plan and 55.0% chose a clinician-swab based plan as the most beneficial plan.

## Discussion

### *Comparing Plans A-E with Roi-Et Province's Current Cervical Cancer Screening Program*

Currently, Roi-Et province employs a dual-track cervical cancer screening program, which combines VIA (for those between 30-45 years and a visible squamo-columnar junction) in conjunction with cryotherapy in a single visit and a Pap smear policy (for the other groups of women). Why did participants see the village-based, self-swab plan (E) as an improvement from the current plan, while Plans A-D were neither more nor less favored? The answer likely stems from Plan E's core difference from each other plan: it is proactive. When asked, What do you think is the biggest challenge to a successful cervical cancer screening program here in Roi-Et province?, the most common response—given by participants of every occupation, gender, and district—was “achieving high screening coverage.” Many others cited “a lack of public education on the value and purpose of cervical cancer screening,” as an element needing more attention. Plan E would actively improve the likelihood of overcoming both of these obstacles. Coverage would likely increase considerably if Plan E were implemented, since screening would come to the women, instead of women traveling far distances to come to the clinic or hospital. Knowledge about the value and purpose of cervical cancer screening could also increase with the implementation of Plan E, because the plan would involve substantial outreach from health care educators and/or providers, whose presence in the community would remind women about the importance of cervical cancer screening and prevention. Thus, Plan E likely seemed an enticing option to correct the shortcomings persistent in the current plan.

Yet, not all participants preferred the village-based, self-swab plan (E) over what they do today—responding that Plan E would be “too cumbersome” and involve “too much work” for the health system. Interestingly, more participants responded that they found Plan E “much more beneficial” (42.0%) than the current plan than responded that they found Plan E “much more preferable” (39.8%) (Table 4, Table 3). This slight disparity suggests that even those respondents who found Plan E personally burdensome, could still see its potential benefits in the effort to reduce incidence and mortality from cervical cancer.

Overall, with the exception of the clinic-based, self-swab, double-testing plan (B), each plan's mean score suggested that it was slightly to substantially more preferred by participants than the current screening program (Table 3). Moreover, each plan's mean score (including Plan B), indicated that the plan was seen as slightly to substantially more beneficial than the current screening program (Table 4). These results suggest that while participants do not believe that the mere addition of the fastHPV test

in any capacity would be a huge leap forward in successful cervical cancer prevention, neither was incorporating the fastHPV- test seen as a step back in the way the community approaches cervical cancer screening.

*Comparing Plans A-E with Each Other*

The vast majority of participants (81.8%) cited either clinic-based, clinician-swab, double testing (A) or village-based, self-swab (E) as the most preferable, least preferable, most beneficial and least beneficial plans of the five in terms of each plan's likelihood to reduce cervical cancer incidence and mortality. In contrast, Plans B, C and D were cited only 18.2% of the time in any of these four questions (Figure 1, Figure 2).

Why did most respondents favor Plan E, but others most passionately disapprove of it? Why did the largest proportion of respondents disapprove of Plan A, but others most fervently favor it? Put differently, why did Plans A and E elicit such strong response? Insight comes from the written responses of participants when asked to justify their choices to these questions. Those who cited Plan E as the most preferred and/or most beneficial plan wrote of the benefits of a “proactive” plan that is “convenient for women.” They cited the need for “increased coverage” and “better access for those who do not have the transportation to get to the clinic,” as justification for their choice. These pro-Plan E participants were often the same people who most fervently disliked and distrusted Plan A. In fact, 77.8% of those who chose Plan E as the most preferred and/or most beneficial plan, chose Plan A as the least preferred and/or least beneficial plan. Plan A was disliked because the use of both tests (regardless of the results of the HPV DNA test) was seen as “redundant” and “a waste of time.” In addition, participants wrote that women are too “shy and embarrassed” to have a pelvic examination as called for in Plan A. In contrast, pro- Plan A participants cited it as the most preferred and/or most beneficial plan because it ensured a “higher probability for detecting precancerous lesions” and would “increase the confidence in the results of screening.” Again, the participants that favored Plan A were most often the same participants who disliked and distrusted Plan E. Sixty percent of those who chose Plan A as the most preferred and/or beneficial plan chose Plan E as the least preferred and/or least beneficial plan. Plan E was disliked because clients would “not be able or be confident in a self-swab test” and because “a clinician-swab would be more accurate.” Moreover, some respondents cited the “burden” on the providers or health educators to travel around their district as a reason for opposing Plan E.

As illuminated by Table 5, there was an interesting divide between occupations that are field-oriented (have a primary health center as a base of activities and work closely with patients at the primary level) and those that are hospital-oriented (have hospital as a base of activities and have more clinical outlook) in their responses. This dichotomy may also be looked at as a physician, non-physician divide. It is interesting that field-oriented, non-physician respondents (officers, providers, trainers) were decisively pro-Plan E and anti-Plan A, while hospital-oriented, physicians

(colposcopists, directors) were much more ambivalent— with many pro-Plan E and anti-Plan A like their field-oriented colleagues, but a sizable proportion pro-Plan A and anti-Plan E.

Notably, those hospital-oriented, physicians who were pro- Plan A and anti-Plan E often justified their choice by lauding the added “credibility” and “accuracy” when both a clinician fastHPV- test and VIA are administered together, as in Plan A. They then disparaged Plan E because they would not be “confident in a woman’s ability to swab herself,” because they thought “a woman would not want to be in charge of her own screening” or because they feared “missing a chance for the clinician to observe the cervix if a woman swabs incorrectly.” Field-oriented, non-physicians, on the other hand, were far less worried about the women’s confidence and ability to perform the self-swab, often citing the uncomfortable pelvic exam as an overwhelming deterrent for woman to come in and get screening.

From a different perspective, perhaps this is not a Plan E/ Plan A divide, but rather a self- vs. clinician- swab divide. As evident by Table 6, more field-oriented respondents chose a self-swab based plan (B, D, E) than a clinician-swab based plan (A, C) as the most preferred and most beneficial plan. In contrast, hospital-oriented respondents were split 50-50 on which version of the fastHPV DNA test would be most preferable and— for the most beneficial plan— more actually believed in the clinician-swab version of the fastHPV test. Perhaps this divide stems from the fact that field-oriented participants work more closely with women on a day-to-day basis and are more in touch with their abilities and needs. And perhaps hospital-oriented participants (at least those who were pro-Plan A) are more concerned with the clinical accuracy of the diagnosis than with the woman’s confidence and ability to self-swab. A survey of the target Roi-Et women, which assesses both the acceptability of a self-swab screening method and the accuracy with which they can perform a self-swab examination, would be helpful in determining the truth to these claims.

It is still important to remember that, despite this segment of hospital-oriented participants suggesting that women would be inaccurate and insecure performing a self-swab and despite a Thai physician’s anecdotal remark (repeated by others) that “women here will never be able to figure out the self-swab fastHPV- test,” the overall majority of respondents had faith in the self-swab technology— with a significant proportion (62.9%) predicting one of the self-swab-inclusive Plans (B, D, E) would be the most beneficial in reducing cervical cancer screening and mortality. This finding—along with the 59.6% of participants who preferred a self-swab-inclusive plan—suggests that the majority of screening stakeholders in Roi-Et province are not as shocked and appalled by the idea of a self-swab as the minority that is against such a method of screening.

Yet, the sizeable support given to the village-based, self-swab plan (E) may also be a result of the practical constraints inherent in Plans A-D.



As was previously mentioned, the new fastHPV DNA test can only be run in batches of 24, 48, or 96 samples and takes 2.5 hours to provide results. If Plans A-D were implemented, a woman would have to wait for a minimum of 23 other women to get screened (either by a clinician- or self-swab). This could take anywhere between hours and days. After enough women had been screened that a batch could be run (and still be cost-effective), a woman would still need to wait another 2.5 hours for her results. Thus, the original problem with cytology-based screening—a lengthy turnaround time, losing women to follow-up—would essentially be brought back to the system. Ironically, this is the very problem that the VIA-based program was introduced to eliminate. In Plan E, in contrast, the self-swab could be provided to 24, or even 48 or 96 women right in their community. The samples could then be collected, run on a car battery and in 2.5 hours—while women either waited in their homes, went to work, etc.—the results could be retrieved. This process would still break the link between screening and treatment brought about with the VIA-based program, but in a way that was found to be even more favorable by participants than the current system.

#### *Strengths and Weaknesses*

This study was strong; the majority of the target sample were surveyed, and no participants refused the interview. Yet all research has its shortcomings and biases. This study's precision was limited by written and on-sight translation, the group interview format, investigator-participant cultural disparities, and an incomplete provider sample.

#### Conclusions

Overall, participants indicated strong support for an innovative plan in which women are screened in their homes and villages using the self-swab version of the fastHPV-DNA test, and only those who score positive for HPV are screened with VIA. With a bit of nuance, Plan E emerged out of the study as the “big winner,” and this overwhelming support for Plan E was revealing. It suggests that, in general, opinion leaders give higher priority to increasing screening coverage of the target population than to providing a more sensitive and specific diagnosis. It indicates that, overall, stakeholders in Roi-Et province are ready and willing to accept self-screening by the females in their society. Finally, it indicates that the Roi-Et healthcare community is tolerant of program reform.

If women feel similarly—and if the a program to instill confidence in the self-swab version of the fastHPV-test supplements its implementation—then there is significant justification for a Plan E-style cervical cancer screening program in Roi-Et province in the near future. Moreover, the study provides a good model for exploring the “best” fastHPV-inclusive program in other settings beyond Roi-Et.

TABLE 1. Composition of Participants

Occupation	Number Surveyed	Total in Province	Role in Cervical Cancer Prevention
provider	40	80	nurse, perform VIA
trainer	8	8	nurse, train others to perform VIA
district medical director	16	16	physician, oversee district hospital policy
district health officer	20	20	bureaucrat, oversee health center and health post policy
colposcopist	4	4	physician, perform colposcopy

TABLE 2. Principal Characteristics of fastHPV-Inclusive Screening Protocols

	VIA?	Clinician- or Self-Swab?	Hospital/Clinic or Village?
<b>Plan A</b>	everyone	clinician-swab	hospital/clinic
<b>Plan B</b>	everyone	self-swab	hospital/clinic
<b>Plan C</b>	only HPV+	clinician-swab	hospital/clinic
<b>Plan D</b>	only HPV+	self-swab	hospital/clinic
<b>Plan E</b>	only HPV+	self-swab	village

TABLE 3. Preference for Plans A-E Compared to Roi-Et's Current Plan

<i>Preference Relative to Current Plan</i>								
Rank/ Plan Pref.	1	2	3	4	5	Mean Score	Diff. in Mean from Plan E	
<b>Plan A</b>	12.5%	14.8%	35.2%	21.6%	15.9%	3.12	-0.46*	
<b>Plan B</b>	14.8%	23.9%	21.6%	23.9%	14.8%	2.99	-0.59**	
<b>Plan C</b>	9.1%	15.9%	29.5%	20.5%	23.9%	3.34	-0.24	
<b>Plan D</b>	12.5%	19.3%	23.9%	20.5%	21.6%	3.21	-0.39*	
<b>Plan E</b>	12.5%	15.9%	12.5%	18.2%	39.8%	3.58	n/a	

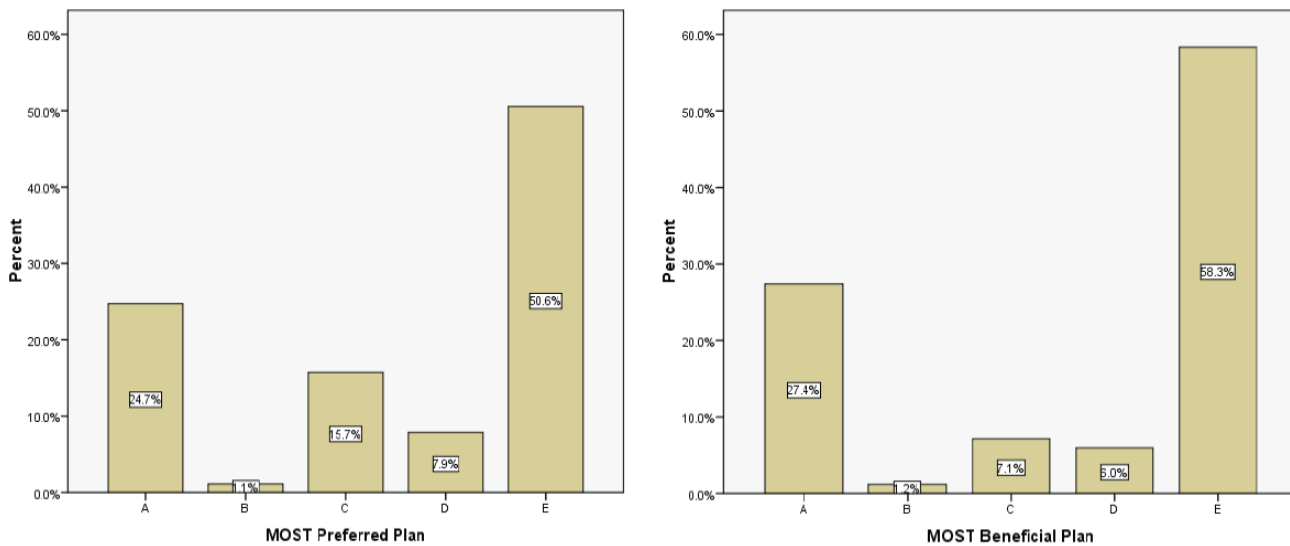
**Paired Samples Two-Tailed T-Test**\*the difference is statistically significant ( $p < 0.05$ )\*\* the difference is statistically significant ( $p < 0.01$ )

TABLE 4. Perceived Benefit of Plans A-E Compared to Roi-Et's Current Plan

<i>Perceived Benefit Relative to Current Plan</i>								
<b>Rank/ Plan Effect</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean Score</b>	<b>Diff. in Mean from Plan E</b>	
<b>Plan A</b>	9.1%	6.8%	33.0%	28.4%	22.7%	3.47	-0.21	
<b>Plan B</b>	9.1%	9.1%	35.2%	30.7%	14.8%	3.32	-0.39**	
<b>Plan C</b>	5.7%	12.5%	33.0%	18.2%	29.5%	3.53	-0.17	
<b>Plan D</b>	10.2%	18.2%	23.9%	20.5%	25.0%	3.32	-0.40**	
<b>Plan E</b>	10.2%	11.4%	18.2%	17.0%	42.0%	3.70	n/a	

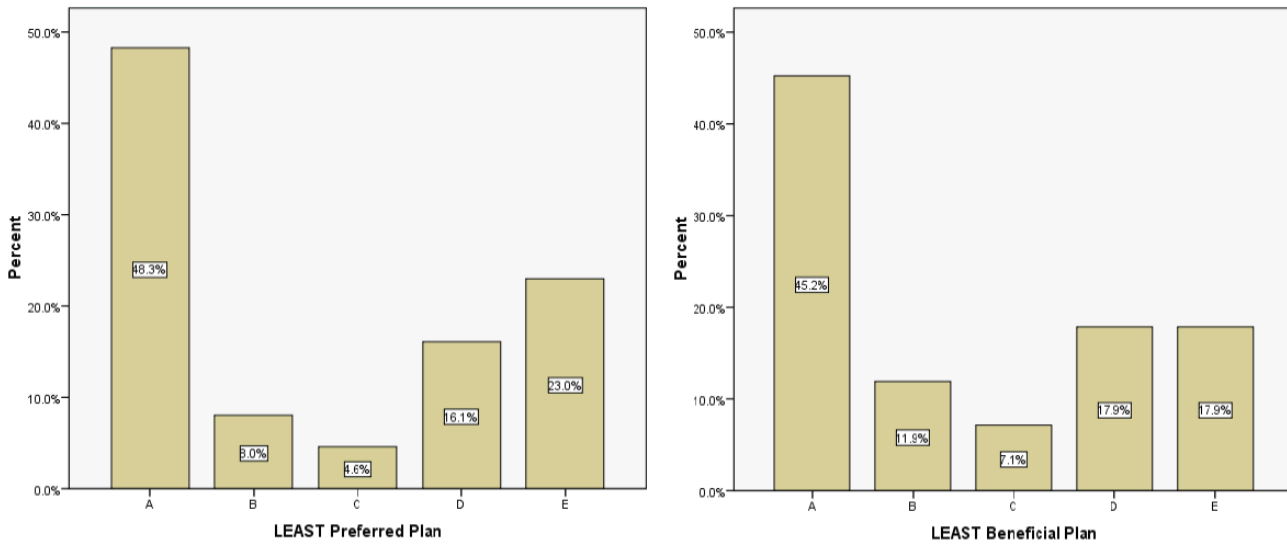
**Paired Samples Two-Tailed T-Test**\*the difference is statistically significant ( $p < 0.05$ )\*\* the difference is statistically significant ( $p < 0.01$ )

FIGURE 1. Most Preferred and Most Beneficial Plans Overall



Plan E was the most preferred plan, with 50.6% of all participants preferring the plan over Plans A-D. Plan A was in distant second, with 24.7% of respondents indicating that they believe it to be the most preferable plan in their district. Plan E was also seen as the most beneficial plan, with 58.3% of respondents predicting it would be most effective in reducing the incidence and mortality from cervical cancer in their district. Plan A was again in distant second, with 27.4% predicting it to be the most beneficial plan.

FIGURE 2. Least Preferred and Least Beneficial Plans Overall



Plan A was the least preferred plan, with 48.3% of all participants choosing Plan A as the plan they preferred the least. Plan E was in distant second, with 23.0% of respondents indicating that they believe it to be the least preferable plan in their district. Plan A was also seen as the least beneficial plan, with 45.2% of respondents predicting it would be the least effective of the five plans in reducing the incidence and mortality from cervical cancer in their district.

TABLE 5. Most Preferred, Most Beneficial, Least Preferred and Least Beneficial Plan Analyzed by Occupation Category

<i>Most Preferred Plan By Occupation Category</i>			<i>Most Beneficial Plan By Occupation Category</i>		
	<b>PLAN A</b>	<b>PLAN E</b>		<b>PLAN A</b>	<b>PLAN E</b>
<b>field-oriented</b>	23.2%	52.2%	<b>field-oriented</b>	21.2%	60.9%
<b>hospital-oriented</b>	30.0%	45.0%	<b>hospital-oriented</b>	40.0%	40.0%
<i>Least Preferred Plan By Occupation Category</i>			<i>Least Beneficial Plan by Occupation Category</i>		
	<b>PLAN A</b>	<b>PLAN E</b>		<b>PLAN A</b>	<b>PLAN E</b>
<b>field-oriented</b>	49.3%	20.3%	<b>field-oriented</b>	46.4%	13.0%
<b>hospital-oriented</b>	45.0%	30.0%	<b>hospital-oriented</b>	35.0%	30.0%

TABLE 6. Preference and Perceived Benefit of Self-Swab vs. Clinician-Swab-Based Plans Analyzed by Occupation Category

	<b>Self-Swab Most Pref.</b>	<b>Clinician-Swab Most Pref.</b>	<b>Self-Swab Most Benefit</b>	<b>Clinician-Swab Most Benefit</b>
<b>Field-Oriented</b>	61.8%	38.2%	67.6%	32.4%
<b>Hospital-Oriented</b>	50.0%	50.0%	45.0%	55.0%

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