



A Qualitative Evaluation of the Acceptability and Feasibility of a Single Visit Approach to Cervical Cancer Prevention in Ghana



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May 2004

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Funding from the
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JHPIEGO, an affiliate of Johns Hopkins University, builds global and local partnerships to enhance the quality of health care services for women and families around the world. JHPIEGO is a global leader in the creation of innovative and effective approaches to developing human resources for health.

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Cover Photo: Nurse at Ridge Hospital counseling a woman. Photographer: Paul Blumenthal, Director, CECAP JHPIEGO.

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PREFACE AND ACKNOWLEDGMENTS

This report describes the qualitative evaluation of the Cervicare project in Accra and Amasaman, Ghana that was conducted in 2003. Numerous individuals were involved in the evaluation:

- The local CECAP Ghana project staff, members of the Cervicare Advisory Group, representatives from the Ministry of Health, and Project staff from Ridge Hospital and Amasaman Sub-District Health Centre assisted with coordinating the interviews.
- Graciela Salvador-Davila conducted the interviews at the national and sub-district levels and prepared the data for analysis.
- Amy Kleine conducted the interviews at the district and community levels, coded all data, and assisted with the analyses and writing of the report.
- Amy Corneli conducted the analyses, including the writing of the report.
- Robbyn Lewis provided the observational data based on her experiences managing the Cervicare project in Ghana.
- Lynne Gaffikin and Amy Corneli developed the evaluation design and data collection tools originally for use in Thailand.

We would like to thank the local staff in Ghana for their assistance in conducting the evaluation and the interviewees for their time and perspectives on the Cervicare project.

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ABBREVIATIONS AND ACRONYMS

CECAP	Cervical Cancer Prevention Program
CHN	Community Health Nurse
MOH	Ministry of Health
TAG	Technical Advisory Group
SAFE	Safety, Acceptability, Feasibility, and Effectiveness
SVA	Single Visit Approach
VIA	Visual Inspection with Acetic Acid

INTRODUCTION

OVERVIEW

In 2000, the Ministry of Health (MOH) of Ghana, in collaboration with the Cervical Cancer Prevention Program Office (CECAP) of JHPIEGO, began a Ghanaian demonstration project focusing on cervical cancer prevention. The project was designed to complement the cervical cancer prevention objectives of the MOH, which are to:

- Decrease cervical cancer morbidity and mortality through improved screening and treatment;
- Strengthen service provider skills in detection and treatment of pre-cancerous cervical lesions; and
- Provide affordable and accessible cervical cancer screening and treatment of pre-cancerous lesions.

The specific objectives of the project in Ghana were similar to the objectives of a comparable demonstration project in Thailand. These were to:

- Assess the safety, acceptability, feasibility, and program effort (SAFE) associated with providing visual inspection with acetic acid (VIA) and treatment with cryotherapy in a single visit as a means of managing suspect pre-cancerous cervical lesions;
- Show that nurses and midwives can confidently treat or refer women with abnormal (suspect pre-cancerous) lesions; and
- Identify ways in which a single visit approach (SVA)-based program could be implemented on an expanded scale.

DESCRIPTION

The main purpose of the two demonstration projects is to address the large unmet need for cervical cancer prevention services in resource-poor countries by testing a practical alternative to cytology-based screening. In Ghana, where cervical cancer screening is infrequently performed, Korle Bu Teaching Hospital in Accra reported that only approximately 1500 pap tests were completed in 1999 out of an estimated 327,750 women aged 20-49 in the city of Accra (Ghana Statistical Service, 2000). In addition, access to a pap test does not guarantee treatment for women with positive test results due to a poor referral and follow-up infrastructure.

The alternative approach that has been tested through the SAFE Demonstration Projects involves VIA followed by immediate cryotherapy treatment, when indicated. This approach allows for an immediate management decision and action to be taken, as appropriate. VIA is a simple procedure that consists of swabbing the cervix with vinegar, waiting for one minute, and looking at the cervix with a light source. Aceto-white areas near the squamo-columnar junction are suspected pre-cancerous lesions. Lesions occupying less than 75% of the cervix were considered eligible for immediate cryotherapy.

In Ghana, the demonstration project is referred to as Cervicare, and was established at Ridge Hospital, an urban hospital, and at Amasaman Health Centre, a peri-urban health center. Both

are located in the Greater Accra Region. At Ridge Hospital, the project tested and collected data on 3665 women from March 2001 to July 2002, and 13.2% tested positive for pre-cancer. At Amasaman Health Centre, the project tested and collected data on 3206 women from January 2002 to July 2003, and 5.9% of women tested positive for pre-cancer. The majority of women with positive test results at both sites was eligible and chose to receive cryotherapy treatment. One year follow-up visits in both sites were ongoing at the time of this evaluation. All women provided their informed consent prior to testing and treatment.

In May 2003, an outreach effort was initiated in Amasaman sub-district to motivate women to participate in cervical cancer prevention services, and to gain the support of their husbands. Ten community health nurses were trained to promote Cervicare during their routine child wellness and immunization clinics. In addition to this effort, a community festival (“Durbar”) was held in late May 2003 in which over 700 people were exposed to information about the project. A separate evaluation of the outreach program demonstrated that these efforts substantially increased recruitment.

At Ridge Hospital, the outreach effort consisted of encouraging women to attend their one-year follow-up appointments. A public health nurse was hired to visit women at their homes and remind them of their appointments, and a widespread radio campaign in Accra was held in September and October 2003. In addition to the planned outreach efforts, a local talk show aired a special episode on cervical cancer in Ghana, and highlighted the Cervicare project.

TIMELINE

- Between May 2000 and December 2000, a Memorandum of Understanding with the Ministry of Health was established, in-country project staff were hired, needs assessments were completed, and project sites were selected.
- The Cervicare project was launched in January 2001.
- Initial training for clinical supervisors was conducted in January 2001.
- Training of four nurses from Ridge Hospital was conducted in March 2001. Registered Nurses (RN) participated in a 10-day training, followed by a two-month practicum.
- Project implementation/client recruitment began at Ridge Hospital in March 2001.
- Training of four nurses from Amasaman Sub-District Health Centre was conducted in December 2001.
- Approximately 3,600 women received SVA services at Ridge by the end of project recruitment on 31 July 2002.
- Project implementation/client recruitment began at Amasaman Sub-District Health Centre in January 2002.
- Active outreach campaign began in Amasaman in May 2003, and is expected to continue through September 2004.
- Approximately 3,200 women received SVA services at Amasaman by the end of project recruitment on 31 July 2003.
- Radio-based media campaign to motivate lost-to-one-year-follow-up women who were screened and treated at Ridge during the recruitment phase was conducted from September to October 2003.
- One-year follow-up ended at Ridge on 31 October 2003.
- At the time of the evaluation visit in October 2003, SVA services and supervision continued in both sites.
- One-year follow-up ended in Amasaman on 31 January 2004.

METHODOLOGY

A comprehensive approach was taken to explore the acceptability and feasibility of the Cervicare project in Ghana. Accordingly, interviews were conducted with stakeholders from many organizational levels who were directly associated with coordination and implementation of the Project as well as with individuals who were not associated with the project. These interviewees included: TAG members, project staff, clinical supervisors, nurse providers, community health nurses, national level policy makers, district level health professionals, and community representatives. Interviews were also conducted with members of the target audience, and involved women and men from the communities in which the Cervicare project was implemented.

INTERVIEW TOPICS

Interviews with **stakeholders** explored some or all of the following topics:

Acceptability:

- Perceptions of barriers to client access to services
- Perceptions of client satisfaction
- Perceptions of client compliance with home care requirements post-treatment
- Willingness to continue with SVA services
- Recognition of benefits of the SVA
- Concerns regarding this approach

Feasibility:

- Impact of the SVA on routine services
- Training
- Community mobilization and counseling
- Supervision
- Quality assurance

The purpose of the interviews with **the target audience** were to:

- Explore women's and men's knowledge, awareness, and risk perceptions of cervical cancer
- Explore women's and men's understanding of SVA
- Determine women's and men's attitudes toward, value of, and acceptability of SVA
- Explore men's role in women's decision to seek VIA testing
- Identify barriers to implementing SVA
- Determine women's acceptability of nurses as testing/treatment providers

SAMPLE

A total of 37 in-depth interviews were conducted with stakeholders, and the sample consisted of the following people:

- Four national level policy makers and district level health personnel. These health professionals were not directly associated with the Cervicare project but were involved in

women's health issues on the national or district level. These interviewees are referred to as "health professionals" in this report.

- Five Technical Advisory Group members. Members are experts in the field of women's health and guided implementation of the project.
- Three Cervicare personnel.
- Five clinical supervisors.
- Seven nurse providers.
- Eleven community health nurses (CHN), including one follow-up nurse.
- One Queen Mother, who is a leader of a village.
- One community health worker.

An outline of this sample is provided in **Appendix A**.

A total of 40 interviews were conducted with the target audience, and the sample consisted of 28 women and 12 men. In order to represent a range of service experiences, a purposive sample was used. Women were interviewed who:

- had tested positive,
- had tested positive and were treated with cryotherapy,
- had tested positive, were treated, and returned for one-year follow-up,
- had tested negative,
- had a related gynecological issue detected as a result of the VIA test, or
- did not have the test.

Women's ages ranged from 25 to 42, and averaged approximately 8 years of school (range 0 to 15).

Men were selected based on their partner's test status, as well as their availability and willingness to be interviewed. Men's ages ranged from 27 to 53, and averaged approximately 11 years of school (range 6 to 15), except for one interviewee who had a PhD. Men's participation in the evaluation was not dependent on whether or not their wives were interviewed.

Specifically, the target audience sample included:

- One woman who was positive on the initial test, had cryotherapy, and was positive on the one-year follow-up test.
- Nine women who were positive on the initial test, had cryotherapy, and were negative on the one-year follow-up test, and two men whose wives were in this category.
- Four women who were positive on the initial test, had cryotherapy, and had not had the follow-up test as of the date of the interview, and the husband of one of these women.
- One woman who was positive and had postponed her cryotherapy, and her partner.
- Six women who were negative on the initial test, and five men whose wives were in this category.
- Four women who had not yet been tested, and two men whose wives were in this category.
- One woman who had cervicitis and was told to return for a VIA test after treatment.
- One woman who had a polyp removed.
- One woman who was diagnosed with, and treated for, squamous cell carcinoma of the cervix, and her husband.

Demographics of the target audience are provided in **Appendix B**.

DATA COLLECTION AND ANALYSIS

STAKEHOLDER INTERVIEWS

CECAP staff provided the consultant with content guidelines, and semi-structured interviews were conducted with stakeholders in Accra and Amasaman over a 10-day period in June 2003. An interpreter assisted with some of the interviews with nurses. Data were then coded by question in a word processing program.

TARGET AUDIENCE INTERVIEWS

In-depth interviews with the target audience took place in October 2003 at Ridge Hospital, Amasaman Health Centre, and select villages in Amasaman Sub-District. Interviews were conducted over a three-week period between 29 September and 25 October 2003. Topic guides were derived from a similar evaluation that was conducted in Thailand in 2001. Using the themes that emerged during the interviews conducted at that time, as well as the overall objectives of the evaluation, topics to explore were identified, and served as the foundation for the unstructured interviews. Interviews lasted 30 to 45 minutes, and were conducted in either English or one of several local languages: Twi, Ga, or Ewe. For interviews conducted in a language other than English, an interpreter translated interviewees' responses into English at the time of the interviews. All interviews were audiotaped, transcribed, translated into English, and typed into a word processing program.

DATA ANALYSIS

Nvivo (QSR, Australia), a qualitative data analysis software package, was used to organize and code data from all interviews according to topics and sub-topics. Once coded, the data were analyzed for common themes, and findings were summarized.

FINDINGS

UNDERSTANDING AND PERCEPTIONS OF CERVICAL CANCER

WOMEN

Described by several interviewees as “an infection in the womb,” cervical cancer was identified as a disease that “you never know when you have it, ” and thus interviewees recognized that it can only be detected through screening. Of the interviewees who discussed their perception of the causes of cervical cancer (19), approximately one-third could not suggest any causes of cervical cancer, yet just over one-quarter cited the initiation of intercourse at an early age as a cause, and similarly, just over one-quarter identified multiple partners as a cause. Another practice mentioned more often that increased the risk of cervical cancer was the insertion of objects into the vagina such as herbs and fingers when bathing. An interviewee explained the rationale for this practice:

“Our mothers told us that if you put some herbs in the vagina it will make you clean, so we do it.”

While interviewees from both urban and rural areas mentioned similar causes of cervical cancer, more interviewees from urban areas mentioned multiple partners and sexual intercourse at an early age as causes of cervical cancer compared to rural interviewees, and more rural interviewees mentioned the insertion of objects into the vagina as causes of cervical cancer compared to urban interviewees.

Several interviewees believed all women were at risk for cervical cancer, but women who practiced the behaviors previously mentioned as causes were at greater risk. Most interviewees believed that if a woman developed cervical cancer she would die, although several stated the importance of testing and treatment in preventing such an outcome.

MEN

When asked to describe their understanding of cervical cancer, most men stated they had limited knowledge about it, and their answers often focused on their awareness of the Cervicare project. Only one interviewee mentioned the association between multiple partners and the increased risk for cervical cancer, and three interviewees acknowledged the severity of the disease. Several men noted they had previously heard about breast cancer.

STAKEHOLDERS

Most of the health professionals, TAG members, and project staff considered cervical cancer to be a major public health problem in Ghana. A TAG member indicated that cervical cancer “is the most frequent cancer among women in the department.” Another TAG member elaborated on the magnitude of the problem:

“It is a problem in this country. It is one of the leading causes of cancer deaths among women. We have considered it a problem from a long time ago.”

Described by a TAG member as the “neglected public health cancer,” many interviewees acknowledged that there are numerous other health problems facing Ghanaian women, but asserted that the prevention of cervical cancer should be a priority. An OB/GYN explained why cervical cancer prevention should be a priority:

“What happens in our field is women present with the problem and it is too late. It is better to prevent than to cure.”

ATTITUDES TOWARD AND UNDERSTANDING OF THE SERVICE

WOMEN

Understanding of the Purpose of Testing

Several interviewees said the purpose of the test was to “clean the mouth of the womb” or to “find out if there is anything wrong with them concerning their cervix.” A number of women provided more detail, and said that “they apply vinegar to the cervix and if there is anything there it shows.” One interviewee described her understanding of the purpose of Cervicare as:

“To check on women’s wombs to see if there is a disease that we can’t see. So, the nurses look to see if there is something there, and if there is, they can treat it so it won’t harm us and it won’t turn into something worse. [The disease] is cancer that is on the womb.”

Perceptions of a Positive Test Result

Among women interviewed who spoke about their perceptions of the meaning of a positive test result (17), nearly one-half perceived the result to mean that the woman had developed cervical cancer. Less understood was the concept of pre-cancer, with just over one-third of interviewees describing a positive test to mean, “the woman has the germs there but that does not mean she has cancer.”

Of the women interviewed who had a positive test result, the majority expressed concern with the result. One interviewee said she felt worried after hearing her result was positive because:

“I understood that maybe I had the cancer, that is what worried me.”

Despite women’s anxiety, they were pleased treatment was available:

“When I was told I was positive, I was very scared. The nurse told me it is good that I came for the test because I would be given treatment. I relaxed and gave them the go ahead.”

Likewise, for some interviewees, feelings of relief emerged rather than concern after hearing their test results given that pre-cancerous cells would not have been found if the VIA test was not available. In response to hearing a positive test result, one interviewee said:

“I was so happy because I knew [the result]. Before the test, [the nurse] told us that you might not know you are having a problem and it can lead into something else, so I was happy I got to know that I had something in there that can be treated.”

Perceptions of a Negative Test Result

The perception that the test result reveals whether or not a woman has cancer was also reflected in the interviewees' interpretations of a negative test result. For most women, a negative test result was perceived to mean that the woman did not have cancer. A few women believed, given their negative test result, that they would never develop cervical cancer in the future. However, several interviewees understood the possibility that changes could occur over time and thus the need for future testing.

While it appears that many of the interviewees were not anxiously awaiting the follow-up test given that several did not keep their follow-up appointment without prompting, all interviewees who received a negative test result one year after cryotherapy understood the result to mean "that there was nothing there and that I will not get that disease." They also stated that they were "happy" because they "were healed."

Attitudes Toward and Understanding of Cryotherapy

Of those interviewees who were able to provide a description of how they perceived cryotherapy to work, three explanations were given. Treatment consisted of "putting some medicine there," "using gas to seal it," or "using something to freeze the mouth of the womb." While the interviewees' understanding about how the treatment works varied, they strongly believed the treatment would be effective. As expressed by one interviewee:

"I know it will work because the nurse told me that she would put some medicine there."

Also stated was the belief that without treatment, women were more likely to develop cancer. As explained by a interviewee who understood the concept of pre-cancer:

"If the person is positive and she comes for treatment she will not get cancer, but if she does not come for treatment then the likelihood of getting the cancer is very good."

While it is unclear if all interviewees who perceived a positive test result to signify cancer also believed that cryotherapy would in fact cure cancer, one interviewee clearly stated this belief when she described what would happen at her follow-up appointment:

"Maybe if the cancer didn't go away I'll have the treatment again."

Satisfaction With the Single Visit Approach

All women were pleased that the Cervicare project was available in their community, and they were all satisfied with their testing and/or treatment experience. One interviewee described her overall perception of the Cervicare project:

"I am happy I came because if I hadn't come, I wouldn't know there was anything like this in me and I am happy I had treatment and was cleared."

In fact, none of the women had any complaints at all about the testing or treatment, although one woman said she would have liked to have been given detailed information about how the

test works. Three women reported having side effects after treatment, such as headaches or abdominal pains, but they reported that they were still happy they had the treatment.

Moreover, eight women reported telling other women that they should have the test, thus providing another example of their satisfaction with their test experience. One interviewee described her experience in telling others about the test:

“At church, I called some of the members and told them I wanted to talk about this cancer. I told them they should all come and do it. When I was told the first time I was scared myself so I didn’t do it. Later on when I came and had it done I realized everyone should have it done. I talked to people and most of them came and had the test done.”

In addition to interviewees encouraging other local women to come for the test, a number of interviewees also suggested extending the Cervicare project to rural areas, another expression of their satisfaction. One interviewee expressed her reasoning for suggesting that the testing and treatment be offered in rural areas:

“Women are always in the home caring for the husband and the children and they don’t go out and don’t know what is happening. There are only a few of us who know what is going on so we have to extend it to those who haven’t heard anything about it so they can get the benefits.”

Another woman asserted:

“If it is brought to them in their community, it would be easier for them.”

Attitudes Toward Nurses Providing the Service

A small number of interviewees were asked about their attitude toward nurses providing the test and treatment. Of these interviewees, all indicated that nurses were suitable and helpful providers. In fact, one interviewee described that her interaction with the Cervicare nurses has improved her impression of nurses:

“I don’t like nurses really but these ones on this project were very nice.”

Likewise, a small number of interviewees were asked and stated that they believed the amount of time and information provided to them by the provider prior to the test was adequate. Furthermore, several interviewees mentioned that the providers were very helpful in calming their anxieties regarding the testing and/or treatment.

MEN

Perceptions of the Single Visit Approach

Men were pleased that the Cervicare services were available. When discussing their overall perception of the project, a few interviewees expressed the importance of early detection. As described by one interviewee:

“We walk around and we don’t know what kind of diseases we have inside us. And the earlier it is treated, then the better chance to treat you.”

Several other interviewees expressed that the test not only helps women, but also families:

“If my wife is healthy, I too am healthy. I think [SVA] is good.”

Only two disadvantages were mentioned by men: one interviewee stated he wished he had been present in the exam room during the test so he would have had a better understanding of the test, and another interviewee said his wife experienced pain after the test.

While most interviewees were unsure of the test specifics, they understood that the purpose of the test was to check for abnormalities, as explained by one interviewee:

“I think they are looking for certain symptoms whether the woman has it or she is free of it. I don’t know what actually happens in the process to know whether they have it or not.”

Four men were interviewed whose wives received a positive test result, and of these men, three discussed their perceptions of the meaning of a positive test result. For one interviewee, a positive test meant, “you have whatever they are testing for...they are testing for the cancer of the womb.” Another interviewee was not disturbed by his wife’s positive test result given that treatment was available. The remaining interviewee said he did understand the meaning of a positive test result. Two additional interviewees whose wives had negative test results believed that a positive test indicated cancer. One of these interviewees stated:

“When you have a positive test, that means you have cervical cancer. If it is negative, it means that maybe you don’t.”

Another interviewee, however, demonstrated an understanding of pre-cancer when he described his perception of a positive test result:

“You have a problem and are almost getting cancer.”

Five men were interviewed whose wives received a negative test result. Of these men, four discussed their perceptions of the meaning of a negative test result, and they understood that it meant “she did not have cancer.”

Several men stated that it was necessary for women to get permission from their husbands prior to having the test and treatment. One man indicated that he preferred that his wife speak with him first rather than receiving immediate treatment:

“I would want her to come and tell me so she would have permission to go and have the treatment done.”

Of note, a few men associated the test with a woman’s ability to get pregnant. One interviewee said his wife was told that the treatment would increase her ability to become pregnant, and she indeed became pregnant after having the treatment. He told friends who do not have children about the treatment:

“My wife has two friends who had never had babies and I will tell them that maybe if they are positive and they have treatment then they will have babies.”

Overall, men were very supportive of the Cervicare project. Demonstrating their support, several interviewees said they had suggested to their friends that their wives get tested, and many suggested the project expand into the rural areas, as expressed by one interviewee:

“Every woman needs to be screened. We want this thing to go around to the villages and communities.”

STAKEHOLDERS

Perceptions of the Single Visit Approach

All health professionals, TAG members, project staff, and community representatives supported the use of SVA as a cervical cancer prevention strategy in Ghana. Several TAG members mentioned that SVA was the best service available due to the combination of testing and treatment:

“The package of screening and treatment is the best we have. Otherwise [patients] will be lost to follow-up. The motivation of screening and having the treatment will motivate them to come.”

Other TAG members supported the SVA approach because the use of nurse providers made it a timely project:

“Cytology demands highly technical people...technologists and pathologists are limited in this country. [The Pap smear] would have made the program very slow.”

Furthermore, some TAG members mentioned that SVA reduced anxiety that is frequently experienced by women as they waited for their Pap results, as well as eliminated patient costs, which may have prevented some women from seeking cervical cancer prevention services in the past.

Interviewees frequently compared VIA to the Pap smear. A health professional demonstrated his support of VIA-based SVA compared to the Pap test:

“VIA is far better. If they do not have this service, by the time the woman comes the lesion may be too big. Or we may lose the client due to cytology. The test is being offered for free, so they come and it is good for them.”

Not only was VIA-based SVA preferred by most interviewees compared to the Pap test, it was also perceived by health professionals and TAG members to be more cost effective than Pap-based services. One health professional indicated, however, that the type of test is dependent on the location and the client:

“VIA should be more applicable for rural women, leaving the Pap for urban areas. It will depend on the age factor and accessibility to clinics and affordability to pay.”

All trained nurse providers, who were responsible for VIA assessments and cryotherapy, and community health nurses (CHN), who mobilized women to seek testing, also supported the use of SVA in Ghana. For some providers, they valued the benefits that SVA provided to women of low socio-economic status, as described by one provider:

“[SVA] is very good, it helps the client. The clients that are very poor do not have the means to cover the pap, but with this project these women have access. I feel very proud to be offering the service.”

Other providers preferred SVA because of the easy access to treatment:

“[SVA] is good because with the Pap, women did not return. Now they can get the treatment.”

In addition, all providers and CHNs believed that women were satisfied with the quality of VIA and cryotherapy services they have received, although a few reported that women have complained about the wait time at the clinic.

Attitudes Toward Test Sensitivity and Specificity

While perceptions regarding the false positive rate of VIA were mixed among health professionals, TAG members, and project staff, most interviewees were not concerned that women with false positive test results received treatment given that cryotherapy is a mild treatment. As described by one TAG member:

“I do not think this causes any harm. So far there are not side effects of treating women with cryotherapy.”

Similarly, given that the alternative test, the Pap smear, was not widely accessible and that cryotherapy was not invasive, several interviewees said the false positive rate was acceptable. A TAG member elaborated:

“VIA may have higher false positives. But, in a country where there is nothing else to do, and cryotherapy is not going to create more medical problems for the woman...the benefits outweigh the risks. The decision should be what is best for the patient versus what is best academically.”

In contrast, a few interviewees were uncomfortable with the false positive rate and believed that efforts should be made to reduce it. Several TAG members, regardless of whether or not they believed the estimated rate (25%) was acceptable, stated that they preferred the false positive rate to be around 10% to 15%.

While they acknowledged that no test is 100% specific or sensitive, including the Pap smear, several health professionals, TAG members, and project staff stated that they wished the false negative rate for VIA (20% to 25%) was lower. Some interviewees suggested that a false negative rate of less than 3% or 5% would be acceptable, although others suggested that an acceptable rate would be between 10% and 20%. While interviewees supported the use of VIA, given its false negative rate, several interviewees asserted that the importance of regular screening should be stressed in outreach messages.

Overall, a common theme throughout the interviewees' discussions of the false positive and false negative rates of VIA was the perception that the "risk of not doing anything is greater." As elaborated by one TAG member:

"The risk of not treating is something to think about. If we over-treat there is a local problem, but if you do not treat we may end up with something that we cannot do something about."

Attitudes Toward Cryotherapy

Health professionals, TAG members, and project staff demonstrated their belief that cryotherapy was an effective treatment for pre-cancerous lesions of the cervix. A staff member described her perception of the value of this treatment in a resource-poor country:

"In a setting where we do not have electricity, cryotherapy is an excellent option. Nurses are great for cryotherapy, and this is a cheaper and safe alternative."

A TAG member expressed his support for cryotherapy:

"I think it is fantastic to be able to do a thing like that, especially for the level of staff you can train to do it. The equipment and the maintenance may be a bit of a problem if you go to places that don't have such easy access without support. But I think it is still less invasive than other things that would have to be done, so I think it is good to have cryotherapy."

Perception of the Patients' Understanding of Their Actual Cancer Risk

While most providers believed that women understood a positive test result to mean pre-cancer, a few providers suggested that some women believed otherwise:

"It will depend on the counseling. Most of them do understand that it is a pre-cancer lesion. Just a few of them think it is cancer."

Overall, providers and CHNs strongly believed that the counseling they provided prior to treatment enhanced women's understanding of the differences between cancer and pre-cancer. Furthermore, they also expressed that they believed women who received a positive test result understood their actual chance of developing cancer prior to agreeing to treatment.

Perceptions of Nurses as Providers

Given that the number of doctors in Ghana is limited, health professionals and TAG members indicated that they supported nurses as the providers of SVA services, on the condition that nurses received appropriate training. Clinical supervisors, who work directly with the providers, repeatedly mentioned their support of nurses as providers of SVA services. Two supervisors shared their perceptions of nurses as providers:

"In this population, the doctor/patient ratio is very high...the population has already accepted the nurses conducting a number of procedures...they are respected as service providers."

“[I am] quite happy with this experience. In the beginning I was quite in doubt [regarding nurses as providers], but now I do not have any reservations.”

Supervisors also placed heavy emphasis on the importance of training in preparing nurses as providers. They stated that practice, supervision, and good counseling skills were essential in order to ensure that nurses provided quality services.

Training

All clinical supervisors, providers, and CHNs said the training they received adequately prepared them for their responsibilities in implementing SVA. Providers specifically stated that their 10-day training was sufficient, and most providers indicated that they felt confident performing the VIA assessment between one week and one month after training. The amount of time needed to become confident performing VIA was dependent on the number of exams done, as described by a provider:

“By a month I felt I was competent – it took me about forty or fifty exams.”

Some providers needed less time and fewer exams to feel confident, as is demonstrated in a response by another provider:

“By the end of the first week I became confident. We did a lot of tests during the first week – an estimated number of 30 women.”

Providers also varied in the amount of time needed to become confident in administering cryotherapy, although most providers reported it took longer in terms of months to become confident compared to VIA exams because cryotherapy was not administered as often. Some providers suggested that after one month they felt confident in administering cryotherapy, while other providers suggested it took between two and four months. Once again, variability in the amount of time is dependent on the number of women who needed cryotherapy. One provider explained that she became confident in her ability to provide cryotherapy, “within two or three months, or about 20 women.” Others suggested that fewer treatments were needed. For example, one provider said it took six treatments to become confident in administering cryotherapy and another provider said it took only two.

Providers not only felt confident in their abilities to conduct VIA assessments and administer cryotherapy, they also expressed confidence in their VIA decision-making abilities. A provider described her role in making clinical management decisions based on the VIA test result:

“What I learned at the workshop has empowered me to make the decision [regarding VIA] and to offer cryotherapy. I feel good in making a decision. If I am in doubt, I ask my colleague – sometimes the cervicitis and positives could look the same. That is the benefit of working as a team.”

CHNs shared the providers’ sense of contentment toward their two-day training, indicating that it adequately prepared them to mobilize the community, as described by a CHN:

“At first we did not have any idea of how to talk to the woman and the husbands, but after the training, we got the skills...”

PERCEPTIONS OF COMMUNITY OUTREACH, WOMEN'S EXPERIENCES, PROVIDER COUNSELING, BARRIERS, AND HOME CARE

WOMEN

Outreach and Education

Interviewees heard about the Cervicare project through multiple channels. Nurses were most commonly mentioned as the source of awareness about the test, but women also reported learning about the testing from announcements made on the television, radio, and at church, and from women who came to speak with them at their hair salons and offices. Interviewees from rural areas were more likely to mention that they heard about Cervicare from nurses whereas interviewees from urban areas were more likely to mention the television or radio as the source of information about the project. One interviewee commented she responded to the radio message specifically designed to remind women to return for the follow-up visit:

“When the time came for review, I forgot because I put my card somewhere. I was lying at home and heard the radio message and then came today.”

A number of interviewees, however, suggested that more announcements were needed because they believed many women were never informed about the test. Frequently mentioned as an alternative source of advertisement was the “gong gong.” Through this local communication channel in rural areas, the village chief beats a “gong gong,” the community gathers, and the chief makes an announcement about a local event, such as the Cervicare project.

While the Cervicare outreach messages reached interviewees, other messages containing unknowingly incorrect information were also heard by the interviewees. For example, four women report being told that a woman's uterus would be removed during the test. A Queen Mother described how women from her village included this misconception in their explanation of the test procedure:

“When women come back, they tell me that they make you lie down and open up and they put something like a spoon into your vagina and they use the spoon to bring out the uterus and then they clean it with cotton and something. They examine it and if there is nothing wrong with it, they tell you and if there is something wrong they tell you.”

An interviewee explained her understanding of the basis of the rumor:

“Women talk about this because of the instrument that is put in the vagina. They think it is put in there to pull out the uterus.”

While some women believed that their uterus would be thrown away, providers stressed that they believed women understood this misconception to mean that the uterus is removed, cleaned, and then re-inserted. Nonetheless, as with other concerns women had about testing, nurses were helpful in reassuring women about the importance of the test and clearing up any misleading information, as expressed by an interviewee:

“The nurses explained that this is not what they are going to do to me, and this comforted me.”

Who Women Spoke with Prior to Testing and Treatment

Approximately 74% of interviewees who received a VIA test were married at the time of the testing. Of these interviewees, 76% indicated that they spoke with their husbands prior to the test. All but one interviewee said that their husbands agreed that they should have the test. Upon receiving additional information about the purpose of the test, the husband who did not immediately agree suggested his wife should have it. A common response by husbands when informed about the test, as told by their wives, was:

“He encouraged me to go so they can tell me whether there is anything wrong.”

Interestingly, this quote was from an interviewee who had not yet been tested but who had already spoken to her husband about the test. Of the four women interviewed who had not yet sought testing, all reported that they had spoken to their husbands about it and received their support.

Of those interviewees who were not married but who were with a partner at the time of the test, one-half said they spoke with their partner prior to getting tested. A few interviewees mentioned that when they spoke with their husbands or partners about the test, the husband/partner indicated that they had heard about the test from the television, as described by one interviewee:

“He actually watched it on the tellie, so when I came I told my husband that the nurses were talking about it and he advised me to go have it done.”

Of the interviewees who received cryotherapy and who were married, four spoke with their husbands before proceeding with treatment and four did not speak with their husbands prior to treatment. An interviewee described how she told her husband about her wish to receive treatment:

“I told him that after I informed him, I was going to check my thing. I have been told that I have some of the germs and if I don’t come back and do it, it will worry me.”

Of the group of women who did not inform their husbands about the treatment prior to its administration, two women told their husbands about the testing and treatment after both were completed (although one of these husbands was out of town at the time testing was available); one interviewee informed her husband of the test prior to its administration, but chose immediate treatment and informed her husband about it afterward; and for one interviewee, it is unclear whether or not she spoke with her husband prior to testing, but she stated that she informed him about treatment only after it was completed. Only one of the husbands who was informed about testing and treatment afterward was upset with his wife; the other husbands were happy their wives had been tested and treated.

A few husbands accompanied their wives to the clinic for the testing, and according to these women, this helped them to receive immediate treatment. As told by one interviewee:

“I came with him. This is how I was able to do treatment that very day. They say before they do it they have to have the consent of your partner.”

Why Women Chose to Get Tested

Once women became aware of cervical cancer and learned of the test, they were motivated to come to the clinic “to check to be sure I don’t have it.” As explained by an interviewee:

“There are a lot of diseases now so I wanted to go and check to see if there is anything so I can be free.”

Only a few interviewees said they wanted the test because they felt they were at risk or they thought something was wrong medically because they were having problems such as pain and/or bleeding.

Women’s Testing Experience

The majority of women expressed that they were afraid immediately prior to having the test, primarily because they perceived it to be painful:

“When I came, I was afraid. I thought maybe it would be painful but when [the nurses] started, I saw there was no pain.”

After testing, all but two women said that the test was not painful. Women’s fear of the test could be due to the fact that similar types of tests, such as the Pap smear, are uncommon in the area, as is suggested by an interviewee’s remark:

“Normally we are not used to having things introduced into the womb. But these people make it okay while you are lying down, they touch you, hold you, talk to you while you are doing the examination. They are very friendly.”

The latter part of the above comment appears commonly throughout the narratives. Several women who were initially afraid of the test described being comforted by the nurse, and this reassurance made their anxiety subside:

“When I came I was very afraid, but the provider took the time and explained everything to me and reassured me.”

What Women Remember Being Told about Their Test Result

When asked to describe what they were told about their test result, women who received a negative test result said that the nurse told them, “I was negative” or “there was nothing wrong with me.” Of those interviewees who received a positive test result, interviewees reported that nurses told them “there were some sores or patches on the cervix,” “they saw some germs,” or “I was positive.” Many interviewees who received a positive test result said that they were either advised or asked if they would like to speak with their husbands prior to treatment. As described by one interviewee:

“When they finished, they told me they saw some germs, that I was positive. They asked if I would like to have treatment. They asked if they should give me the treatment immediately or if I would like to speak to my husband.”

What Women Remember Being Told Post-Treatment

After receiving treatment, interviewees remembered being told that they should abstain from sexual intercourse for one month to six weeks, and if they could not abstain, that condoms should be used. Numerous interviewees also remembered being told to expect a discharge. An interviewee described an analogy told to her by a nurse that helped her to understand cryotherapy as well as a side effect to expect after treatment:

“They gave me the example of putting meat in the freezer, and when you bring it out to thaw there is water, so I would have some kind of discharge and they gave me a packet of pads and some panties.”

Women’s Follow-up Experience

Of the interviewees who discussed their follow-up experience, it appears that women needed extra encouragement to keep their one-year follow-up appointment. Several of the interviewees traveled out of town/country in between the time of their first test and the one year follow-up appointment, and they did not remember to visit the clinic for the follow-up testing once they returned home. Also, a few interviewees either postponed or forgot about their follow-up testing, although with the encouragement and outreach efforts of the clinic staff, these women returned to the clinic.

While two interviewees mentioned that some women might not return for their follow-up testing because they were scared, only one interviewee expressed any personal anxiety about her follow-up test:

“After a year when I came back for the review, I was a bit nervous. I was like, ‘Oh God, don’t let it be positive.’ When I came it was negative and I said, ‘Oh, thank God.’ I felt very relieved.”

Perceptions of the Most Common Barriers

Multiple reasons were given as potential barriers to women having a VIA test:

- **Fear.** Most commonly suggested was “fear,” which was mentioned by one-half of interviewees. A few of the interviewees explained that fear comes from not knowing the results would be, as explained by one interviewee:

“Some women are scared of the results, if it is positive. It is not the distance or the money for transport. They are scared of the end result and they prefer not to hear it.”

Other interviewees explained that fear comes from the anticipated pain from the test. Although it is difficult to discern the source of fear from most of the discussions on perceived barriers, the discussion of the interviewees’ thoughts prior to the test may provide some insight into “fear” as a barrier for seeking testing. As mentioned previously, the narratives suggested that the

apprehension toward testing is due to women's perception that the test procedure will be painful. This anxiety appears to have subsided once the test was over and women realized that it was not painful, thus reflecting fear of the test itself. Fear of cervical cancer was also present in the narratives. However, it appears that for most women these feelings didn't emerge until after they received a positive test result.

- **Husbands.** Restrictions from husbands were also mentioned by just over one-quarter of interviewees as a potential reason why women might not come to the clinic for testing. While many of the interviewees who said husbands could be a potential barrier did not elaborate on their reasoning, fear of the abstinence recommendation and fear of being ill were suggested by one interviewee as the reasons husbands might not want their wives to get tested:

“When they talk about treatment, the men can't wait [to have sexual intercourse with their wives], which is some of the problems that women have. Some of them feel that if their wives say they are positive, then the men also have some of the disease. This is in the mind of some of the men.”

Another interviewee suggested that shame placed upon the woman by her husband might keep some women from getting tested:

“Maybe they attach some stigma to it, like if your husband asks you what caused it and you tell him, it could be this or that, maybe he would say ‘oh you were like this before I married you.’ There would be some question marks.”

- **Money.** Lack of money was also mentioned by just over one-quarter of interviewees. Many said that women were not informed that the test and treatment were free, or if they were, they still believed that ultimately they would have to pay money.
- **Other barriers.** Three interviewees mentioned they believed that shyness was a barrier, three interviewees believed that a lack of understanding kept women from seeking the test, two interviewees suggested that forgetfulness was a barrier for some women, and one interviewee mentioned that she believed that being asymptomatic kept women from testing. Also mentioned by three interviewees was the fear that either the Cervicare project would also screen for HIV or that they would get HIV from the equipment.

As a potential method to help women overcome some of the barriers listed above, several interviewees suggested that women who had already had the test and/or treatment become part of the outreach effort. As elaborated by one interviewee:

“When someone is a satisfied client like me, she can go out and give a talk to women either at churches or in homes. We can talk to people at the market. When people come to me I can tell them to come if they have not had the test done. I'll tell them that they don't charge anything and it is okay.”

Husbands' Responses to Home Care Recommendations as Told by Interviewees

Of the nine women who discussed their husbands' or partners' reactions to the post-cryotherapy abstinence recommendation, only one interviewee indicated that her husband was

upset. This interviewee, who did not inform her husband about the test or treatment until afterward, described her husband's reaction to learning about her testing and treatment experience and follow-up recommendations:

"Though I didn't tell him before, when I went home and I explained it further and he wasn't happy because he didn't understand. So any time he wants to come to me, I ask him to be patient."

The remaining eight interviewees described their husbands' positive acceptance to the recommendation, although two of these husbands were not near their wives for a few months following treatment. One interviewee described her post-treatment experience regarding abstinence:

"After treatment I made my husband understand that this is very, very important and I wouldn't joke. So even though they supplied us with condoms, I did not use them, and I did not have sex for three months. My husband was okay with it because he wanted me to be well."

MEN

Acceptability of Home Care Recommendations

All the men interviewed, regardless of their wives' test results, indicated that they would accept the post-cryotherapy abstinence recommendation if their wives needed treatment because their wives would need time to "heal." A few interviewees associated the post-cryotherapy abstinence recommendation to other situations in which sexual intercourse was delayed, such as after childbirth. Interviewees also stated that not all men would tolerate the recommendation, but some suggested that education would help increase men's acceptance, as explained by an interviewee:

"Yes, it might be a problem but it depends on how you view your wife. Some people think, I am a man and if I need her, I need her....I believe it takes understanding for ignorance to be avoided. When a man understands that if a woman is not cured it will spread on the body, such a man will sacrifice for a woman to be healed."

Four men were interviewed whose wives had cryotherapy and they said they were able to abstain from sexual intercourse following treatment because "her health is necessary." One interviewee said the recommendation "is not for so long, just four weeks," while others suggested that they could abstain for longer, if needed, because their wives' health is what was most important, as was described by one interviewee:

"It didn't bother me. We stayed for about 10 weeks or more before we even had sex. I think about her health. Suppose we do something with a condom or not, and she gets injured. I think the four weeks is not enough. You should double it to eight weeks."

One interviewee, whose wife had a positive test result, said he did not initially understand the post-cryotherapy abstinence recommendation so he sought information from the hospital:

“[My wife] said that after the exam if we agree on the treatment that she would be treated and for a month we will not be together. Actually, I did not understand this. That’s why I decided to come, to get more explanation about that.”

After learning more about the purpose of the treatment, this interviewee said he wanted his wife to be treated.

Perceived Barriers to Women Accessing Services

Men named multiple factors they believed could have prevented some women from getting tested. These include:

- **Husbands.** Some interviewees indicated that women’s husbands could pose a challenge. One interviewee said that some men do not want their wives’ private parts exposed, while another interviewee said that some men preferred their wives to stay at home. Frequently mentioned was the inclusion of husbands in educational outreach programs as a method to increase support of their wives’ wishes to be tested, as expressed by one interviewee:

“The man must understand before he can support or even allow the woman to go.”

Another interviewee said:

“There are different types of men. Some men are difficult, so we have to educate them either by broadcast or going house-to-house. Those whose wives have the disease should approach the hospital for advice. That is the best way to talk to them.”

Several interviewees suggested that outreach messages should stress that cervical cancer is only detectable through testing, as described by one interviewee:

“I would give information to my fellow men to advise their wives to come and check whether they are having that disease because you can’t see it. It’s a secret. You don’t see unless it develops. It is better for the husbands to tell their wives to come and check.”

- **Fear.** Some husbands believed that women might have been scared to have the test. The source of fear was unclear in most responses, but one interviewee said women fear going to the hospital:

“A lot of people are scared to go to the hospital.”

- **Other barriers.** One interviewee believed that women did not get tested because they were asymptomatic, two interviewees said lack of awareness could have prevented some women from getting tested, two interviewees cited a lack of money as a potential reason, and one interviewee said women were too busy.

STAKEHOLDERS

Outreach and Education

In addition to outreach messages that were provided at the clinic by nurses, or through media channels such as the television and radio, local communication sources were also used. A Queen Mother, who is the head of a village, described that her outreach approach involved using the village “gong gong:”

“As the Queen Mother, I asked them to beat the gong gong and I asked for the young ladies to come and I told them about the cancer project. If there is a bus or tro-tro that is coming to pick them up, I gather them here and they go. If I don’t have a chance to beat the gong gong then I go to individual houses to talk to the young ladies there.”

Community health workers were also involved in community outreach. A community health worker stressed that when he informed women in his community about SVA services, he made sure to include the husbands in the discussion. He said:

“I have to tell the men and the women. If you tell the woman alone and not the husband, there will be a problem.”

Health professionals and TAG members named multiple topics that should be included in future outreach messages. Most commonly mentioned was the inclusion of messages that stressed that cervical cancer is preventable with early detection and treatment of pre-cancerous lesions. Also mentioned was the inclusion of information that will calm any fears women experienced by emphasizing prevention, but also by describing the test procedures. Interviewees also stressed that men need to be included in all outreach programs.

Perceptions of Women’s Decision Regarding Immediate Treatment

Providers perceived that women appreciated learning the VIA results immediately. A few providers believed that women preferred immediate results because of the convenience and monetary reasons:

“I think they are happy because in the past they had to return and some of them did not come back because they did not have the money. Now they get the result immediately and they are happy. It is better.”

Another provider said:

“[In the past], sometimes they were unable to return.”

Similarly, providers perceived that women “liked having the option of having treatment immediately,” but all providers emphasized that only some women were able to accept immediate treatment given that most women must first consult with their husbands. A provider elaborates on this issue:

“Some of the women wish to do it immediately. But, because they are staying with the husbands and need abstinence, they need to talk with the husbands. Most of the

husbands know already so they accept immediate treatment. Some others have to go back. Husbands are the head of the family and cannot be bypassed. They have to seek the husband's permission first."

Given this, a few providers indicated that some women who had to speak with their husbands prior to treatment did not return:

"Some women have to ask permission from the husbands. In some cases, they do not return because the husbands do not give them permission."

Similarly, of the women who were not able to accept immediate treatment, the follow-up CHN also mentioned that not all of these women returned for their follow-up appointment:

"Some of them do come and some others do not want to come even if you offer them the vehicle, they do not come."

Frequently, providers described that some women sought their assistance when speaking to their husbands about the need for treatment:

"When the husband does not accept, the client comes and tells us that he does not accept. In some instances, the client requests assistance from us to convince the husband. The help is needed because the woman does not understand or cannot explain to the husband all the details."

Perceptions of Counseling

Providers and CHNs named a variety of topics they believed should be emphasized during counseling sessions with women, although no more than two nurses mentioned each topic. Topics included social issues such as the need to dispel rumors concerning the removal of the uterus during the procedure, to emphasize that the test is free, and to involve the husband. They also suggested that medical issues should be included in counseling such as the differences between cancer and pre-cancer and the importance of early detection. To illustrate, two nurses suggested that because women were more likely to be aware of breast cancer compared to cervical cancer, counseling messages must emphasize that screening as well as treatment is available when pre-cancerous lesions are detected early:

"Most of the women just think that cancer can affect the breast because it is external, but they do not think of the cervix because it is internal. [They do not know] that if they get screening and are found positive, it could be treated."

Another nurse described the need to include husbands in the counseling process:

"I think that when women are positive and they have to go through the treatment, the husband is the most difficult issue. I think we have to involve the man [in counseling]. It is difficult."

Perceptions of Adherence to Home Care Recommendations

While most of the providers and CHNs believed that women were able to adhere to the post-cryotherapy home care requirements, several nurses indicated that husbands could pose a challenge:

“I think the problem is not of the woman, but of some of the husbands. Some of them do not understand the need for a month of abstinence.”

A few nurses suggested that the inclusion of husbands in the counseling sessions or community outreach improved their acceptance of the post-cryotherapy requirements. A provider described her response to a husband who was unhappy that his wife received the test and treatment:

“We invited the man to come and have a conversation with us and now he is referring clients to us.”

Providers and CHNs also asserted that they did not believe that women were alarmed by the potential side effects of cryotherapy because they were thoroughly counseled about the treatment and the potential side effects to expect. They also stated that women appeared to understand the importance of returning to the clinic if they experienced any post-cryotherapy warning signs.

Perceptions of Barriers to Accessing Services

- **Husbands.** Numerous interviewees suggested that some women received limited support from their husbands and this prevented them from getting tested. A clinical supervisor suggested:

“Abstinence is a problem and prohibits women to come for the screening.”

Additionally, misconceptions about SVA among men were cited as a potential barrier to women accessing the service. For example, the community health worker said that when he spoke with some men in his community they did not want their wives to come to the clinic for SVA services because they believed “they are going to stop them from giving birth.”

- **Lack of awareness about issues surrounding cervical cancer.** Interviewees stated that they believed some women were unaware of the causes of cervical cancer and the benefits of early detection, and therefore they didn’t get tested. As stated by one clinical supervisor:

“They know of cancer but not of the screening services. You see a doctor only when you get sick. People do not visit doctors.”

Also frequently mentioned was the perception that Ghanaians do not focus on preventive health care.

- **Money.** The community health worker commented that some women from his community told him that a lack of money for transport prevented them from coming to the clinic for SVA services. Other interviewees also cited transportation costs as a barrier.

- **Fear.** Interviewees suggested that fear was a barrier experienced by some women. As described by one of the CHNs:

“Some women fear the result. First, there is fear about the procedures and then fear about the result. Some also fear the instrument that they use.”

ATTITUDES TOWARD PROJECT EFFECT ON ROUTINE SERVICES AND PROJECT EXPANSION

EFFECT OF PROJECT ON ROUTINE SERVICES

Clinical supervisors implied that the inclusion of SVA into their daily activities was not overwhelming. In fact, some clinical supervisors indicated that the inclusion of SVA had been beneficial for their clients because the Cervicare project had not only provided them with an opportunity to be tested for pre-cancerous lesions, but also a chance to inquire about other health concerns.

Most providers and CHNs also believed that the inclusion of SVA services did not disrupt routine services at their health facility. Similar to the perceptions of some clinical supervisors, several providers and CHNs indicated that SVA services had a positive effect on their clinic, as described by an CHN:

“It has affected us positively because it brings more women to the clinic. It has made them aware of the services.”

Only a few providers mentioned that SVA services increased their workload as well as the waiting time for women to obtain service, but they still maintained that routine services were undisturbed.

All providers and CHNs indicated that their colleagues were supportive of the implementation of SVA services at the health facility. To demonstrate their support, many providers said that their colleagues “invited people to come by telling church members, family members, and other clients.”

SUPERVISION ISSUES

Clinical supervisors stated that the most significant contribution they provided as a supervisor was assisting providers with their clinical decision-making skills when SVA services were first implemented. As stated previously, the clinical supervisors strongly supported nurses as providers of SVA, but they acknowledged that in the beginning, supervision was needed to help providers become confident in their abilities. A clinical supervisor described his perspective on supervising the providers at the beginning of the Project:

“I think that exercising the function of clinical supervisors enhances the confidence of the nurses and enhances their ability to make the right interpretation. It has been a friendly type of situation, and we have wanted to help. [Supervision] has provided them the opportunity to learn and ask questions...in the initial states, it was very useful and helpful.”

Another clinical supervisor described that a supplementary role of a supervisor was to verify test results, when needed. He believed this was an additional positive effect that supervision had on the implementation of SVA:

“The providers have also had somebody for a second opinion. You do not feel alone. It cuts down the false positives.”

Clinical supervisors believed that supervision “depends on the stage of the project and level of expertise they have.” Most supervisors believed that frequent supervision was vital at the beginning of the project, but over time, once the providers became more competent, the frequency of visits could be and were reduced. A clinical supervisor described his supervisory experience:

“I think that from my experience for the first month, they will need to have a supervisor to be around. From then on, the supervisor can visit twice a week for one or two months, and then once a week until they become competent. Then they can be referred for cases when nurses are uncertain.”

Clinical supervisors also perceived that nurses accepted and appreciated the supervision they received. As explained by one clinical supervisor:

“I would say without hesitation [that nurses accepted supervisor’s input]. They very much welcome it. Knowing that they were doing the right thing was excellent to them.”

Clinical supervisors asserted that they did not experience any serious challenges as supervisors, although one supervisor commented that traveling to rural areas was time consuming and another supervisor expressed difficulties in balancing his family planning responsibilities with his SVA supervisory responsibilities. All supervisors acknowledged, however, that supervisory visits were necessary to maintain the quality of VIA and cryotherapy services.

Overall, clinical supervisors were satisfied with the delivery of their assistance during the course of the Project. Although the co-assessment supervisory forms were considered helpful, many supervisors suggested streamlining them if used in Project expansion. Another suggestion for Project expansion was to assign a specific day of the week to offer SVA services as a means to help the supervisors coordinate their time and visits.

From the providers’ perspective, they stated that they were content with the amount of supervision they received. They described that supervision was frequent in the beginning when the services were first offered, but that over time, once they became competent in their assessment and treatment abilities, supervisory visits became less frequent and ranged from approximately twice a week to once a month, depending on the site or if a provider requested assistance.

Supervision for CHNs varied. Some CHNs reported that their supervision consisted mostly of a review of their paper work, while other nurses reported that their health talks were observed. Frequency of supervision averaged once a week.

Clinical supervisors had mixed feelings about having nurses serve as supervisors if Cervicare was expanded to other regions of Ghana. One supervisor believed that nurses “do not have enough knowledge and/or the training to handle more serious cases,” whereas other supervisors believed with enough training, practice, and a supervisory course, nurses could eventually become supervisors. Health professionals and project staff supported the idea of nurses as supervisors.

Providers also believed that they could assume supervisory positions after receiving the appropriate training, guidance from the current supervisors, and practice.

SUGGESTIONS FOR PROJECT EXPANSION

Health professionals, TAG members, and clinical supervisors all supported the continuation of SVA services in Ghana and believed the project could be sustainable if services and supervision were incorporated into regular clinical practice and if services could continue to be provided free of cost. Many mentioned that the Ministry of Health should take the lead in integrating SVA into regular clinic services:

“The MOH has to take it up and provide resources and incorporate it [SVA] into the health service and provide the inputs for the services. The Project has shown that it can be done.”

Health professionals, TAG members, and project staff also believed that there is enough evidence from the Cervicare project to move forward with implementing SVA services in other parts of the country. For example, many believed that the successful training of nurses as providers was one indicator of success, as stated by a staff member:

“We have prepared a group of providers that are proficient in detection and treatment.”

Many others suggested that the number of women who had requested SVA services was another indicator of success. A health professional elaborated on this indicator:

“[It is because of] the enthusiasm of the women patronizing the clinic. They are talking about it and they are becoming less fearful of the test. They are able to understand now.”

A staff member strongly stated that SVA services must extend into other regions of the country:

“Without scaling up, it will be unjust to the rest of the country. Sixty-five percent of the population live in the rural area. We’ll not have any impact in regard to the screening and prevention of cervical cancer [if the project is not expanded.]”

Correspondingly, all providers and CHNs supported the use of mobile clinics as a means to expand services given that, “they will reach more people because we would be sending the service right to the doorstep of the people.” Some nurses, however, expressed reservations about how a mobile clinic would be implemented. For example, a few CHNs expressed concern that there were not any appropriate locations available for a mobile clinic, while other nurses said the practicality of a mobile clinic would depend on the strength of the staff and the amount of equipment available.

Although most TAG members said that the current service delivery policies and guidelines could remain in the present form if SVA services were to be expanded to other areas in Ghana, several of the TAG members suggested intensifying community outreach. Also suggested was the inclusion of SVA in regular family planning services.

ISSUES TO BE EXPLORED

One of the primary objectives of the Cervicare project was to determine the feasibility of implementing a SVA-based program on an expanded scale. Data presented here, as well as observational and record data, demonstrated that there are several issues worth exploring prior to or as part of program expansion.

1. **Disease reduction:** Reduction in cervical cancer morbidity and mortality depends on treating women with treatment-eligible precancerous lesions. SVA, which links VIA testing with the offer of immediate treatment, can increase the likelihood that eligible test-positive women receive treatment right away. According to project records, the majority of test-positive, treatment eligible women screened at Ridge Hospital accepted immediate treatment. However, one-third of these women postponed treatment, most often citing their perceived obligation to speak with their husbands first. Similar findings were also reported in this evaluation. Such delays have the potential to reduce the effectiveness of SVA by disrupting the screening and treatment linkage. Strategies to involve male partners earlier in the decision-making process should be explored, in order to enhance their support for women's treatment decisions, and increase the likelihood that test-positive treatment eligible women ultimately receive treatment.
2. **Access:** For a variety of well-considered reasons, cervical cancer prevention services during this phase were provided in a family planning clinic setting at an urban hospital and a semi-rural health center – a fixed, or “static” service delivery point. Opportunistic screening at these static sites drew a self-selected client population, and may have missed other women at risk for cervical cancer. A different service delivery strategy may increase access by a broader population of women. Several interviewees recognized this, and supported a mobile service delivery strategy as a way to increase access, particularly for rural areas. Mobile strategies for cervical cancer prevention have been successfully applied in Thailand and elsewhere. In Ghana, well-established mobile campaigns, such as the Polio Plus vaccination initiative, demonstrate that mobile strategies can work in rural areas; it remains to be shown whether a mobile strategy can increase women's access to cervical cancer prevention services in Ghana.
3. **Addressing knowledge, attitudes and beliefs:** The knowledge, attitudes and beliefs about cervical cancer expressed by interviewees may not necessarily reflect those of the entire population because the sample was not fully representative of the Ghanaian population. Nevertheless, interviewees' perspectives described herein suggested areas that should be further explored when developing educational messages and awareness raising strategies for eventual program expansion.
4. **Sustainability:** Although the project was implemented under field conditions to the fullest extent possible, project sites enjoyed extensive external technical assistance and financial support. It remains to be shown whether SVA services are sustainable as part of routine service delivery, without the inclusion of external assistance.

STRENGTHS AND CHALLENGES

STRENGTHS AND CHALLENGES ASSOCIATED WITH THE TARGET AUDIENCE

STRENGTHS

- Women were eager to have access to cervical cancer screening services.
- Among women and male partners who participated in the project, awareness of cervical cancer increased.
- Women understood that cervical cancer can only be detected through testing, and understood the importance of testing and treatment in the prevention of cervical cancer. Women were also well aware of the availability of treatment for women with positive test results.
- Women were satisfied with their experiences with SVA. As an example of their support for SVA, many women told their friends about the test, and suggested that the Cervicare project extend into rural areas in order to offer the service to more women. Moreover, several men also said they mentioned the test to their friends.
- Women stated that they believed cryotherapy is an effective treatment.
- Providers strongly believed that women appreciated the option for immediate treatment.
- Outreach messages on the radio served as effective reminders for women to return for their follow-up test. Men also reported hearing the outreach messages on the radio or television.
- The population of satisfied clients and their male partners now comprise a cadre of persuasive SVA advocates. Interviewees recommended the establishment of a formal outreach effort, involving satisfied clients, designed to encourage male support for women's screening and treatment decisions.
- Most women indicated that their husbands agreed to the post-treatment abstinence recommendation. All men interviewed said they would adhere to this recommendation if their wives received treatment. Among men whose wives received treatment, the majority asserted that they adhered to the recommendation. They also admitted, however, that some men would not follow this recommendation, and suggested that education might help to increase the husbands' support.
- Overall, women accepted nurses as providers of VIA testing and cryotherapy treatment. They stated that the nurses helped them to feel at ease during the procedure.

CHALLENGES

- Women held some misconceptions about the causes of cervical cancer, including the belief that herbs inserted into the vagina could cause cervical cancer. Some women also mistakenly believed that the uterus would be removed during the test.
- Some women and men misunderstood the meaning of the VIA test result. Many conflated a positive VIA test result with a diagnosis of cervical cancer.
- Only some women and few men acknowledged the connection between sexually transmitted infections and the increased risk for cervical cancer.
- Men stressed that their wives should speak with them prior to having the test and treatment, and nurses believed that this prevented some women from returning for treatment.
- Some men associated increased fertility with VIA testing.

- A number of women suggested expanding community outreach because they believed there were many women who had never heard about the test.
- Women needed extra encouragement to return to their follow-up appointments.
- Some women perceived that the test would be painful. Although after having the test they realized it was not painful, women as well as stakeholders suggested that some women might have not been tested because they believed the test would be painful.
- Women, men, and providers mentioned that husbands could pose a challenge and prevent some women from getting tested. Providing education specifically for husbands was repeatedly mentioned as a method to increase husbands' support.
- Women and stakeholders identified financial constraints as potential barriers to seeking testing, and indicated that some women might not have believed that the test was truly free of cost.
- Stakeholders mentioned that some women might have not had the test due to lack of awareness about the importance of early detection and treatment.

STRENGTHS AND CHALLENGES ASSOCIATED WITH THE STAKEHOLDERS

STRENGTHS

- Providers' high level counseling skills were a significant asset to the project. All providers in Ghana had backgrounds in family planning, which may be an advantage in motivating women to accept screening and treatment services. Moreover, providers' experience in family planning may also have contributed to their skill in resolving conflicts with male partners regarding women's treatment decisions.
- Stakeholders asserted that cervical cancer prevention should be a priority in Ghana.
- Stakeholders believed that SVA was the best approach to cervical cancer prevention for Ghanaian women given the combination of testing and treatment. SVA was preferred compared to the Pap smear because cytologists were not needed and treatment was immediately offered. Several also commented that they preferred SVA because the Pap smear was not affordable by many women.
- Health professionals, TAG members, and clinical supervisors supported nurses as providers of VIA and cryotherapy. Nurse providers also believed they were confident providers of the service.
- While health professionals, TAG members, and project staff would have preferred a lower false positive rate, they stated that it was acceptable given that cryotherapy is not an invasive surgery.
- Health professionals, TAG members, and project staff believed that cryotherapy was an effective treatment for precancerous lesions.
- Providers strongly supported the need for client counseling, and believed the counseling clients received helped them to understand the test and treatment.
- Clinical supervisors, providers, and community health nurses stated that the training they received adequately prepared them for the implementation of SVA.
- Clinical supervisors and providers did not believe that SVA disrupted routine services at the clinic. In fact, they believed it had a positive impact on the care provided to women because they learned about other services available.
- Clinical supervisors believed that supervision was necessary and most helpful immediately following clinical training, and continuing throughout the first few months of the project.
- Ridge Hospital's family planning clinic profited from the presence of three on-site staff Obstetrician Gynecologists (i.e., clinical supervisors). The existing consultation and referral

relationships between these physicians and nurse providers proved to be a significant asset to the project, in that it simplified the integration of cervical cancer prevention services into the routine clinical supervision and client referral procedures of the site.

- Clinical supervisors did not face any serious challenges in their role as a supervisor, and only a few mentioned that their supervisory responsibilities hindered the completion of their other responsibilities.
- Clinical supervisors stated that they believed that with the appropriate training, nurses could become supervisors of the SVA services.
- Stakeholders supported the expansion of the Cervicare project into other regions in Ghana, and asserted that the success of the Cervical project in Amasaman and Accra was evidence for expanding. Mobile clinics were supported as a method to reach women in the rural areas.
- Women repeatedly mentioned that the nurses were helpful and reassuring throughout the testing and treatment process.

CHALLENGES

- Several health professionals, TAG members, and project staff expressed their wish that the false negative rate of VIA were lower, although they acknowledged that proceeding with VIA with a 20% - 25% false negative rate was better than not having the test and treatment at all.
- Several health professionals, TAG members, and project staff also expressed that they wished the false positive rate were lower, with an acceptable range of 10% - 15%, and suggested that efforts be made to reduce it.

ADDITIONAL CHALLENGES BASED ON OBSERVATIONAL DATA NOT INCLUDED IN THE EVALUATION FINDINGS

- Staff attrition is a common challenge in developing country settings, where capable personnel are known to seek better employment or educational opportunities. In this project two of the three on-site physicians trained at the beginning of the project have departed; one to seek private practice, and the other retired.
- With pressure from health systems reforms forcing developing country health institutions to impose cost recovery measures, the sustainability of the project's cervical cancer prevention services may be in jeopardy. The imposition of a service fee at Ridge Hospital last year, equivalent to US\$4, had an immediate, and dramatic negative impact on client demand. Hospital administrators recently reduced to fee, equivalent to US\$1, and recruitment rates have recovered. Nevertheless, it is unclear how revenues generated by cervical cancer screening services will be reinvested to ensure sustainability.
- Encouraging preliminary results appear to have stimulated Ghanaian policymaker's eagerness – as well as their impatience – to rapidly expand cervical cancer prevention services. While such enthusiasm is laudable, it also increases the risk of overconfidence, and too-hasty implementation that can weaken quality of services, lower morale, and fail to achieve effective coverage rates.
- The presence of staff Obstetrician Gynecologists at Ridge is not representative of most health facilities in Ghana; most nurse midwives in Ghana enjoy far less clinical support, a fact that must be taken into account if services are to be expanded to more rural sites.

RECOMMENDATIONS

Recommendations for the continuation of the Cervicare project in the current settings:

- Incorporate SVA into routine services in order to increase sustainability.
- Consider the use of nurse providers as supervisors to reduce the amount of time needed from the clinical supervisors.

Recommendations for the expansion of the Cervicare project into other regions in Ghana:

- Continue the use of nurses as providers of SVA.
- Continue supervision with frequent visits at the beginning that lessen over time as providers become competent in administering the test and treatment.
- Continue using the same approach for training clinical supervisors and nurse providers.

Recommendations for continuation at both current sites and expansion:

- During community outreach, discuss the misconceptions held by the target audience that may have been barriers for some women, such as the perception that the test is painful or that women's uteruses will be removed. Provide more information about the risk factors for cervical cancer.
- Continue with radio and television advertisements as part of the community outreach plan, and increase their frequency.
- Continue outreach messages that address both the need for the initial training as well as the importance of follow-up for those who received cryotherapy.
- Create a community outreach plan specific for increasing husbands' support and encouragement for the test and treatment.
- Consider an outreach plan that includes women who had the test and their husbands as spokespersons.
- Explore how to best explain the differences between pre-cancer and cancer, and include this information in all counseling sessions and outreach messages.
- Explore how to incorporate the men's role into the decision-making process for having the test.
- Establish strong referral networks at new sites and reinforce existing ones at current sites to ensure adequate follow-up and treatment.
- Ensure participation of key stakeholders and policy makers in planning of current and future SVA services.
- Continue using auxiliary nurses, such as Community Health nurses, to assist with community outreach and recruitment.
- Link screening to a commonly anticipated life event, such as women's 40th birthday, or the 15th birthday of the eldest child, in order to remind women of the importance of screening in the absence of a major communication outreach program.

CONCLUSIONS

The first phase of the Cervicare project was implemented at Ridge Hospital in Accra and Amasaman Health Centre in Ga District, within the Greater Accra Region. This project successfully demonstrated the safety, acceptability and feasibility of the Single Visit Approach to cervical cancer prevention using VIA and cryotherapy. This approach was highly acceptable to women, their male partners, and providers. No major post-treatment complications were reported, and minor complications were negligible. Although stakeholders acknowledged there are many health problems facing women in Ghana, they supported Cervicare and the integration of the single-visit approach into routine services. They recognize that SVA has the potential to benefit Ghanaian women because it is a feasible alternative to cytology-based screening programs. In addition, stakeholders expressed no major concerns regarding the use of VIA and cryotherapy as a result of the cervical cancer prevention strategy. They suggested that the successful implementation of the project in Accra demonstrated that SVA using VIA and cryotherapy is safe, acceptable and feasible in Ghana, and should be expanded into other regions. Both women and stakeholders perceived nurses as qualified providers of SVA.

The challenges confronting cervical cancer prevention using the SVA are similar to those faced by family planning, and as such, are surmountable with time, effort, and committed funding. Coverage is the central epidemiological challenge to effective cervical cancer morbidity and mortality reduction in Ghana. Programmatically, development of sustainable quality assurance strategies for the SVA with VIA testing is of equal importance, assuring performance to standard (“quality assurance”). Regarding knowledge and attitudes, educational and counseling messages must be refined so that clients and male partners have a better understanding of the VIA test result, and the difference between cervical pre-cancer and cancer. Given the impact of partners on women’s treatment and follow up decisions, strategies to enhance supportive male involvement must be incorporated into future education and outreach efforts.

The Single Visit Approach demands minimal technological infrastructure. This approach offers low-resource countries a safe, acceptable, feasible alternative to cytology-based screening programs: SVA provides an immediate result, uses locally available supplies, can be performed by non-physicians, and allows them to gain a foothold in their initial prevention efforts. Beyond the technology itself, SVA also allows countries to create awareness and lay the groundwork essential to any future large-scale cervical cancer prevention program. Emerging cervical cancer screening and treatment technologies are on the horizon; the infrastructure and awareness built as a result of SVA initiatives can help to lay the foundations on which new screening technologies can be built, in Ghana and elsewhere.

APPENDIX A. STAKEHOLDER SAMPLE

In total, 37 interviews were conducted with stakeholders. Each type of stakeholder, the number interviewed, and the corresponding interview site, are listed in **Table A-1**.

TABLE A-1. STAKEHOLDERS INTERVIEWED

STAKEHOLDER TYPE	NUMBER INTERVIEWED	SITE
Clinical Supervisor	5	Accra
Director of District Health Office (also TAG member)	1	Ga District
Technical Advisory Board Member	4	Accra
Health Professionals	4	Accra
Project Staff	3	Accra
Provider Nurse	4	Ridge Hospital, Accra
	3	Amasaman Health Center
Community Health Nurse	10	Amasaman Health Center
Follow-up Community Health Nurse	1	Ridge Hospital
Village Leader	1	Amasaman Sub-District
Community Health Worker	1	Amasaman Sub-District
Total	37	

APPENDIX B. TARGET AUDIENCE SAMPLE

Ridge Hospital

In total, 18 interviews were conducted with interviewees who accessed, or whose partners accessed, services at Ridge Hospital. This included 12 women and 6 men. The status of each woman interviewed included:

- One woman was VIA-positive, received cryotherapy, and was VIA-positive on the follow-up test
- Six women were VIA-positive, received cryotherapy, and were VIA-negative on the one year follow-up test
- One woman was VIA-positive and postponed cryotherapy
- One woman was VIA-negative
- One woman had a polyp and was referred with no test result
- One woman had cervicitis and was told to treat it and return for a VIA test
- One woman was diagnosed with, and treated for, squamous cell carcinoma

Amasaman Health Centre

Twenty-two interviews were conducted with interviewees who accessed, or whose partners accessed, services at Amasaman Health Centre. This included 16 women and 6 men. The status of each woman interviewed included:

- Three women were VIA-positive, received cryotherapy, and were VIA-negative on the one year follow-up tests
- Four women were VIA-positive and received cryotherapy, but had yet to have a VIA follow-up test
- Five women were VIA-negative
- Four women had yet to be tested

The tables below summarize the sample. **Table B-1** lists the age, education, and test result or service received for the women interviewed. **Table B-2** lists the age, education, and test result or service received of partners for the men interviewed. **Table B-3** provides a summary of how many women and men were interviewed based on the VIA test results.

TABLE B-1. WOMEN INTERVIEWED

SITE	AGE	EDUCATION	SERVICE RECEIVED
RIDGE HOSPITAL	28	12 years	VIA-positive and cryotherapy; VIA- positive on follow-up
	35	12 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	29	15 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	41	10 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	37*	12 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	42*	15 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	43	Unknown	VIA-positive and cryotherapy; VIA-negative on follow-up
	26*	13 years	VIA-positive and postpone cryotherapy
	32	14 years	VIA-negative
	34	10 years	Referral for polyp, No VIA test
	36	0 years	Cervicitis / No result
39*	10 years	Squamous Cell Carcinoma	

* Husband / Partner Interviewed

TABLE B-1. WOMEN INTERVIEWED, CONT.

SITE	AGE	EDUCATION	SERVICE RECEIVED
AMASAMAN HEALTH CENTRE / SUB- DISTRICT	36	9 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	28*	0 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	27	9 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	28	0 years	VIA-positive and cryotherapy; no follow-up
	35	15 years	VIA-positive and cryotherapy; no follow-up
	28	3 years	VIA-positive and cryotherapy; no follow-up
	40	0 years	VIA-positive and cryotherapy; first follow-up only
	30	6 years	VIA-negative
	25	9 years	VIA-negative
	35	10 years	VIA-negative
	34	9 years	VIA-negative
	31	9 years	VIA-negative with chronic endocervicitis
	25	9 years	Had not been tested
	39	3 years	Had not been tested
	30	9 years	Had not been tested
	26	9 years	Had not been tested

*Husband / Partner interviewed

TABLE B-2. MEN INTERVIEWED

SITE	AGE	EDUCATION	SERVICE RECEIVED BY WIFE / PARTNER
RIDGE HOSPITAL	NK*	NK	VIA-positive and postpone cryotherapy
	43*	10 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	52*	15 years	VIA-positive and cryotherapy; VIA-negative on follow-up
	53*	12 years	Squamous Cell Carcinoma
	43	10 years	VIA-negative
	50	17+ years	VIA-negative
AMASAMAN HEALTH CENTRE	37*	13 years	VIA-positive and cryotherapy; no follow-up
	31	10 years	VIA-negative
	27	6 years	VIA-negative
	47	10 years	VIA-negative
	35	10 years	Not tested
	42	12 years	Not tested

* Wife / Partner Interviewed

TABLE B-3. NUMBER OF WOMEN AND MEN INTERVIEWED BASED ON TEST RESULT / TYPE OF SERVICE

INTERVIEWEE	TEST RESULT / TYPE OF SERVICE							TOTAL
	VIA-POSITIVE AND CRYOTHERAPY; VIA-POSITIVE ON FOLLOW-UP	VIA-POSITIVE AND CRYOTHERAPY; VIA-NEGATIVE ON FOLLOW-UP	VIA-POSITIVE AND CRYOTHERAPY; NO FOLLOW-UP	VIA-POSITIVE AND POSTPONE CRYOTHERAPY	VIA-NEGATIVE	NO TEST	OTHER	
WOMEN	1	9	4	1	6	4	3	28
MEN (WIFE'S TEST)	0	2	1	1	5	2	1	12

