Cervical Cancer Screenings: A Needs Assessment

"Many women don't go to the doctor to check themselves if they're not feeling pain. Therefore, this is an important project. You often don't have symptoms. I didn't have a Pap smear... and then I went. Fortunately, they still found the problem early. More women need to go check themselves" – Survey Respondent in Pancho Mateo.

Nicole Pfeiffer
Health Horizons International
3/17/2012
Summary:
In the Dominican Republic, the greatest threat to women's health now comes from non-communicable disease such as heart disease and cancer (World Health Organization [WHO], 2008a). Of all cancers affecting women, cervical cancer has the highest mortality rate and age standardized incidence in the country (International Agency for Research on Cancer [IARC], 2008a) – in fact, in 2008, a woman in the Dominican Republic was over eight times as likely to die of cervical cancer than a woman living in the United States (IARC, 2008a; IARC, 2008b). This issue is particularly disconcerting given the highly preventable nature of the disease. According to an IARC report, screening all women aged 35 to 64 who have had one previous negative screen once every 10 years can reduce the cumulative rate of cervical cancer by up to 64 percent. This number rises to a 93 percent with a two year screening interval (PATH, 2000, p. 9).

Given the high burden of the disease throughout the country and its preventable nature, HHI undertook a needs assessment in an effort to better understand issues surrounding cervical cancer and preventive screenings in HHI’s communities. The objectives of the assessment were to determine women’s knowledge surrounding cervical cancer, behavior regarding screenings, and barriers to accessing preventive services. The assessment was also used to gather more information about existing screening options and ways in which HHI could increase their availability to women in its partner communities.

A survey of 190 women between the ages of 18 and 79 in HHI’s partner communities revealed that only 33 percent of respondents had been screened within the last year and that 26 percent of all respondents had never been screened in their lifetime. Haitian women had the lowest rate of uptake amongst any subgroup, with only 15 percent of respondents having been screened within the last year and 55 percent of respondents never having been screened. The survey also revealed that uninsured women were significantly less likely to have been screened within the last year than their insured counterparts. A lack of awareness about screenings, money, and time spent away from home, were cited as the largest barriers to accessing screenings. The survey also gathered information about several common misconceptions about cervical cancer and the human papilloma virus (HPV), including beliefs that HPV is a type of HIV, that a hysterectomy is the only cure for cervical cancer, and that Pap smears are used to “clean out” a woman. Finally, the survey revealed that 40 percent of women who had their last Pap smear at La Maternidad Hospital reported being unsatisfied with their experience.

This information demonstrates that interventions are needed to accomplish three main goals:

• Increase awareness about cervical cancer and the importance of screenings
• Improve the quality of screenings services and follow-up care
• Remove barriers to access to screenings

In response to the need for such interventions, this paper proposes that HHI spearhead an educational campaign based on the TATI model in Peru, support La Maternidad in evaluating and improving its services through use of Engender Health’s COPE method, and further investigate the possibility of
directly providing screenings. Through such interventions, HHI can play a significant role in reducing the burden of disease for women in its partner communities.

Methodology:

The needs assessment was broken into the following three main parts:

Survey of Women in HHI’s Partner Communities:
A survey was conducted with 190 women in HHI’s partner communities ranging in age from 18 to 79. The survey included quantitative questions designed to gain information about the following topics: 1. Basic demographic information, 2. Knowledge about cervical cancer, Pap smears, and the human papilloma virus, 3. History of Pap smears, 4. Overall satisfaction with the most recent Pap-smear experience and 5. Barriers to accessing Pap smears. The survey also included one open-ended question about women’s greatest challenge in accessing Pap-smear services. A section for notes was also included so that enumerators could collect qualitative data.

Due to low-literacy rates amongst women in HHI’s partner communities, the survey was administered in the form of face-to-face interviews. One HHI staff member, one Peace Corps Volunteer, and five female community health workers served as survey enumerators. Enumerators were trained in data collection and were supervised before administering the survey on their own.

The survey was written in English, translated into Spanish, and pre-tested with women in HHI’s communities. Adjustments were made and female community health workers (CHWs) were used to confirm the clarity and cultural appropriateness of the survey. The survey was then conducted in Spanish with Dominican participants. For native Haitian Creole speakers, a community health worker fluent in English, Spanish, and Creole served as an interpreter for the staff member who administered the survey.

While a lack of census data or a grid-pattern of streets made it impossible to truly randomize the survey, CHWs divided each community into various subsections and served as guides to hard-to-reach rural areas. Each enumerator was then assigned a different subsection to ensure that all areas of the community were represented in the survey response.

Limitations of the survey data:

There are a few notes to be aware of when interpreting survey data. For one, the participation rate of Dominican women was almost 100 percent, substantially higher than that of Haitian women, many of whom refused to participate in the survey stating that they had never had a Pap-smear and did not want to discuss the issue. As a result, the survey data only reflects answers from those women who voluntarily chose to participate in the survey and may not represent the community as a whole. In particular, it is likely that the overall rate of Pap-smears was actually lower in the Haitian community than reflected by the survey.
Additionally, due to an outbreak of dysentery, the deaths of several community health workers’ family members, and adverse weather conditions, the survey team was not able to interview Haitian women living in the community of Severet (an estimated population of about 10-15 women). Given the fact that Haitians had a substantially lower rate of Pap smear uptake than Dominicans, survey results might slightly overestimate Pap smear uptake and knowledge surrounding cervical cancer in the overall population of HHI’s partner communities.

Finally, although every attempt was made to interview women in a private setting, due to the highly-crowded nature of HHI’s communities, this level of privacy could not always be obtained, which may have influenced some women’s responses. In particular, unmarried women may have been less likely to answer questions about their sexual history truthfully than they would have in a private setting.

Semi-Structured Interviews with Healthcare Professionals:
In addition to the collection of survey data, the project also included semi-structured interviews with physicians and staff from the following medical centers: Centro Diagnostico Montellano, Centro Medico Cabarete, La Maternidad Hospital, Island Impact/Clinica Buen Semaritano, and the Puerto Plata Ministry of Public Health. Locations were selected to represent a variety of public and private sector institutions. Qualitative information obtained from these interviews is used throughout the “Proposed Interventions” section of this report. An HHI staff member is currently in the process of collecting information from Hospital Ricardo Limardo in Puerto Plata.

Focus Group with Community Health Workers:
A focus group involving both male and female CHWs was also conducted in order to obtain in-depth input regarding barriers to access to cervical cancer screenings as well as suggestions for how such barriers can be eliminated. Qualitative information obtained from the focus group is used throughout the “Proposed Interventions” section of this report.
Summary of Survey Findings

Medical History:

• 32.6 percent of women surveyed have had a Pap-smear within the past year.
• 26 percent of women surveyed have never had a Pap-smear.
• Of women who have been screened, 44 percent reported having been screened within the last year.
• 12.6 percent of women surveyed reported having had a hysterectomy.
• 69 percent of women surveyed reported never having used a condom, while 24 percent reported using condoms occasionally, and 7 percent reported using them all the time.
• 70 percent of women surveyed reported having no insurance, while 15 percent reported having SENASA (public insurance), 12 percent reported having private insurance, and 3 percent reported having insurance but did not know the type or brand.
• While 69 percent of women surveyed listed La Maternidad as the location in which they most frequently access medical care, only 39 percent had their last Pap-smear at the clinic.
• 40 percent of women who had their last Pap-smear at La Maternidad were “unsatisfied.”

Knowledge:

• 80 percent of women surveyed had heard of cervical cancer, 97 percent had heard of a Pap-smear, and 63.2 had heard of HPV.
• The most common misconceptions surrounding these topics were:
  ▪ That washing with unclean water can cause cervical cancer.
  ▪ That removing a woman’s uterus is the only way to treat cervical cancer.
  ▪ That HPV is a type of HIV.
  ▪ That a woman who develops cervical cancer will definitely die from the disease.
• 29 percent of women who had heard of Pap-smears could not correctly identify detection of cervical cancer as a purpose for the exam.

Barriers to Access:

• A lack of symptoms or awareness was the most commonly cited reason for why women never had a Pap-smear, followed by money, and shame.
• For women who have had a Pap-smear, money was overwhelmingly cited as the principal barrier to repeating the exam, followed by time.

Differences between Groups:

• The percentages of Haitians (15%) and Uninsured Dominicans (26.87%) that reported having had at a Pap-smear within the last year were significantly lower than those of their Dominican (36.8%) and insured counterparts (46.4%).
• Knowledge of issues surrounding cervical cancer was also significantly lower amongst Haitians and Uninsured Dominicans than amongst their counterparts.
• There were no statistically significant differences between Peri-urban and Rural Dominicans or amongst women with varying levels of education.
Survey Findings

Demographic Information*

<table>
<thead>
<tr>
<th>Community</th>
<th>Ethnicty</th>
<th>Employment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=190</td>
<td>n=190</td>
<td>n=190</td>
</tr>
<tr>
<td>Severet 15%</td>
<td>Haitian 17%</td>
<td>Unemployed Ed/Housewife 81.6%</td>
</tr>
<tr>
<td>Negro Melo 9%</td>
<td>Dominican 83%</td>
<td>Employ 5.8%</td>
</tr>
<tr>
<td>Pancho Mateo 63%</td>
<td>Other Business 4.2%</td>
<td></td>
</tr>
<tr>
<td>Arroyo Leche 13%</td>
<td>Student 7.9%</td>
<td></td>
</tr>
</tbody>
</table>

Marital Status

n=190

<table>
<thead>
<tr>
<th>Single 13%</th>
<th>Cohabitating 51%</th>
<th>Married 27%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separated 5%</td>
<td>Divorced 1%</td>
<td>Widowed 4%</td>
</tr>
</tbody>
</table>

Highest Level of Education

n=190

<table>
<thead>
<tr>
<th>University 5%</th>
<th>Secondary 22%</th>
<th>None 7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional School 2%</td>
<td>Primary 64%</td>
<td></td>
</tr>
</tbody>
</table>

**MEAN AGE SURVEYED:** 39.25*

**MEAN # OF BIRTHS:** 3.9**

**MEAN # OF LIVING CHILDREN:** 3.2

*This information reflects the demographics only of the survey sample and should not be taken as demographic information for HHI’s communities overall.

**Mean age should be taken as an estimate only, given that many women did not know their actual birth date and only had an estimate as to their age.

***Mean # of births should be taken as an estimate given a lack of clarity between live births and abortions.
Survey Findings

Medical History

Insurance Status
n=190

Uninsured: 70%

- SENASA: 15%
- Private: 12%
- Insured (unknown provider): 3%

Medical Home
n=190

La Maternidad 68.9%
- Ricardo Limardo: 5.3%
- Seguro Social: 4.2%
- Centro Sanitario: 3.2%
- Gregorio Hernandez: 6.3%
- Bournigal: 6.8%
- Other: 4.2%
- Dr. Lamber: 1.1%

Have been Sexually Active
n=188

- Yes 97%
- No 3%
- Uncertain 0.6%

Have Had Hysterectomy
n=174

- No 86.8%
- Yes 12.6%

Condom Use
n=181

- Never 69%
- Sometimes 24%
- Always 7%
# Survey Findings

## Knowledge

<table>
<thead>
<tr>
<th>Question</th>
<th>% Yes</th>
<th>% No</th>
<th># of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you heard of cervical cancer?</td>
<td>80</td>
<td>20</td>
<td>190</td>
</tr>
<tr>
<td>Have you heard of a Pap-smear?</td>
<td>97.4</td>
<td>2.6</td>
<td>190</td>
</tr>
<tr>
<td>Have you heard of Human Papilloma Virus (HPV)?</td>
<td>63.2</td>
<td>36.8</td>
<td>190</td>
</tr>
</tbody>
</table>

## Questions Regarding Pap-smears

<table>
<thead>
<tr>
<th>Question</th>
<th>% Correct</th>
<th>% Incorrect/Uncertain</th>
<th># of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you believe that a Pap-smear is only necessary when a woman has symptoms of infections or another medical problem?</td>
<td>82.1</td>
<td>17.9</td>
<td>184</td>
</tr>
<tr>
<td>Do you believe that women who are no longer having sex still should get a Pap-smear?</td>
<td>81.9</td>
<td>18.1</td>
<td>183</td>
</tr>
<tr>
<td>Do you believe that abnormal results from a Pap-smear always mean that a woman has cancer?</td>
<td>69.8</td>
<td>30.2</td>
<td>183</td>
</tr>
<tr>
<td>Is the purpose of a Pap-smear to detect HIV, detect cervical cancer, or detect pregnancy?</td>
<td>70.1</td>
<td>29.9</td>
<td>195</td>
</tr>
</tbody>
</table>

## Questions Regarding Cervical Cancer

<table>
<thead>
<tr>
<th>Question</th>
<th>% Correct</th>
<th>% Incorrect/Uncertain</th>
<th># of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you believe that certain types of sexually transmitted infections can cause cervical cancer?</td>
<td>92.2</td>
<td>7.8</td>
<td>153</td>
</tr>
<tr>
<td>If a man has various sexual partners, do you believe this behavior can increase his wife’s risk of developing cervical cancer?</td>
<td>86.7</td>
<td>13.3</td>
<td>150</td>
</tr>
<tr>
<td>Do you think that cervical cancer can be prevented?</td>
<td>84.3</td>
<td>15.7</td>
<td>153</td>
</tr>
<tr>
<td>If a woman develops cervical cancer, is it certain that she will die from cancer?</td>
<td>57.5</td>
<td>42.5</td>
<td>153</td>
</tr>
<tr>
<td>Do you believe the only way to treat cervical cancer is by removing a woman’s uterus?</td>
<td>33.3</td>
<td>66.7</td>
<td>153</td>
</tr>
<tr>
<td>Do you believe that washing with dirty water can cause cervical cancer?</td>
<td>13.1</td>
<td>86.9</td>
<td>153</td>
</tr>
</tbody>
</table>

## Questions Regarding HPV

<table>
<thead>
<tr>
<th>Question</th>
<th>% Correct</th>
<th>% Incorrect/Uncertain</th>
<th># of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you believe that infection with the human papilloma virus (HPV) can increase the risk of developing cervical cancer?</td>
<td>84.2</td>
<td>15.8</td>
<td>120</td>
</tr>
<tr>
<td>Do you believe that the human papilloma virus (HPV) is transmitted through sexual intercourse?</td>
<td>82.5</td>
<td>17.5</td>
<td>120</td>
</tr>
<tr>
<td>Do you believe that the human papilloma virus (HPV) is transmitted by undercooked food?</td>
<td>68.4</td>
<td>31.6</td>
<td>117</td>
</tr>
<tr>
<td>Do you believe that the human papilloma virus (HPV) is a type of HIV or AIDS?</td>
<td>49.2</td>
<td>50.8</td>
<td>120</td>
</tr>
</tbody>
</table>
Survey Findings

Pap-Smear History

Have had Pap Within Last Year
n=190
- Yes 33%
- No 67%

Date of Last Pap
n=141
- Less than 1 year ago 44%
- From 1 up to 5 years ago 43%
- From 5 up to 10 years ago 7%
- From 10 up to 15 years ago 4%
- More than 15 years ago 2%

Have Had at Least one Pap in Lifetime
n=190
- Yes 74%
- No 26%

Location of Last Pap
n=139
- La Maternidad 37%
- Bournigal 15%
- Ricardo Limardo 4%
- Gregorio Hernandez 13%
- Seguro Social 3%
- Centro Sanitario 4%
- Medical Operative 2%
- Puerto Plata 3%
- Outside POP 12%
- Other 2%

Method of Transit to get to Pap-Smear
n=139
- Public 80%
- Private 9%
- Walking 8%
- Combination 3%

Average cost of Pap-Smear: 333 RD
Average spent on transportation to get Pap-smear: 132 RD
Average time spent to reach clinic where Pap-smear was performed: 42 minutes*

*This measure may not be very accurate due to the fact that many women listed times that were not possible to arrive at a particular clinic (e.g. 15 minutes to get from Arroyo de Leche to Bournigal).
*The number of women who have received abnormal Pap-smears may be higher than represented on the graph. During the survey, several women had answered that they had never received an abnormal result, but presented results that were abnormal to the survey enumerator, indicating a lack of understanding.

Survey Findings

Dissatisfaction with Last Pap-Smear Experience (La Maternidad)

Note that overall dissatisfaction is higher than the individual aspects of the experience due to issues not addressed on the survey, such as confidentiality of results. Such issues will be addressed in the recommendations section.
Survey Findings

Attitudes about Screenings

(All Women)

Think Pap-Smear is Important
n=185

- No: 1.7%
- Somewhat: 0.5%
- Yes: 97.8%

Worried about Cervical Cancer
n=186

- No: 39.2%
- Somewhat: 6.0%
- Yes: 54.8%

Interested in Learning More
n=185

- No: 0.5%
- Yes: 98.5%

Would Like to get Pap-Smear during Field Clinic
n=185

- No: 17.0%
- Somewhat: 2.5%
- Yes: 80.5%

Prefer Male or Female Doctor
n=185

- No preference: 56.2%
- Male: 14.6%
- Female: 29.2%
Survey Findings

Barriers to Access
(All Women)

Cost is Prohibitive
n=185

- Yes 64.7%
- No 28.4%
- Somewhat 6.9%

Distance is Prohibitive
n=187

- Yes 42.4%
- No 52.2%
- Somewhat 5.4%

Barriers to Access
(Women who have been Screened)

Principal Challenge to Accessing Pap-smears
Survey Findings

Barriers to Access

(Women that have never been Screened)

Afraid Pap will be Painful

<table>
<thead>
<tr>
<th>Somewhat</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>13%</td>
<td>40%</td>
<td>47%</td>
</tr>
</tbody>
</table>

Partner Would Consent to Pap-Smear

<table>
<thead>
<tr>
<th>Somewhat</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.8%</td>
<td>88.1%</td>
<td>7.1%</td>
</tr>
</tbody>
</table>

Ashamed to get Pap-Smear

<table>
<thead>
<tr>
<th>Somewhat</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3%</td>
<td>32.6%</td>
<td>63.0%</td>
</tr>
</tbody>
</table>

Would Get Pap if Recommended by Doctor

<table>
<thead>
<tr>
<th>Somewhat</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2%</td>
<td>95.6%</td>
</tr>
</tbody>
</table>

Know Where Pap-Smear is Offered

<table>
<thead>
<tr>
<th>No</th>
<th>Somewhat</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.3%</td>
<td>71.7%</td>
<td></td>
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</table>
Survey Findings

Qualitative Information about Barriers to Access

**Lack of Awareness**: Amongst women who had never been screened for cervical cancer, a lack of symptoms or “reason” was the most commonly cited reason for not having had a Pap smear.

“I’ve never gone because I’ve never been made to realize that it was important for my health”

“I don’t know anything about this”

“The doctor never prescribed it”

“I’ve never had a reason to do it”

“Many women don’t go to the doctor to check themselves if they’re not feeling pain. Therefore, this is an important project. You often don’t have symptoms. I didn’t have a pap-smear for over 2 years and then I went. Fortunately, they still found the problem early. More women need to go check themselves”

**Money**: 65 percent of all women surveyed reported that the cost of a Pap smear was prohibitive. Additionally, money was cited as the largest impediment to repeating a Pap smear amongst women who had been screened in the past.

“Sometimes one just doesn’t have enough [money] to go”

“When you live out here in the fields, sometimes there just isn’t money and it costs a lot to get to Montellano”

“The doctor told me to go do it, but often I don’t have money”

**Time**: Time was also considered to be a barrier to accessing screenings by many women, especially in rural areas. One community health worker in Arroyo de Leche reported difficulties getting a Pap smear since she agreed to cook for the teachers at the local elementary school as a source of income, and therefore could not attend La Maternidad in the mornings.

Another woman stated:

“I take care of a sick child and I don’t have time to go do it.”

**Shame/Fear**: 53 percent of respondents who had never had a Pap smear indicated that they were afraid or somewhat afraid to get one. 38 percent of unscreened women indicated that they would be ashamed or somewhat ashamed to get one.

“I’m afraid that they’re going to make a mistake and damage me. I’m afraid of the pain.”

“I’m really embarrassed.”

“I’m afraid it will hurt.”
Survey Findings
Comparisons between Groups

In order to determine where knowledge about cervical cancer and access to cervical cancer screenings were the lowest in HHI’s partner communities, a comparison between the following groups was made:

- Dominicans and Haitians
- Women of different ages
- Women of different educational levels
- Insured and Uninsured Dominicans
- Rural and Peri-Urban Dominicans

The last two groups did not include Haitians because no Haitians were insured and only three Haitians were surveyed in rural communities. Additionally, given the statistically significant difference between Haitians and Dominicans in terms of screening rates and knowledge scores, eliminating Haitians from these later comparisons controlled for ethnic differences.

A significantly lower proportion of Haitians reported having had at least one Pap-smear in their lifetime than their Dominican counterparts. Additionally, the mean overall knowledge score of Haitians was significantly lower than that of Dominicans. Amongst women who had their last Pap-smear at La Maternidad, a significantly higher percentage of Haitians reported being unsatisfied with the experience than did Dominicans.

The proportion of uninsured women who reported having had at least one Pap smear was substantially lower than that of insured women. The mean overall knowledge score was also significantly lower amongst the uninsured.

A higher percentage of women in the highest risk age groups (25 to 60) had a pap-smear within the last year than did women outside of that age group. However, the difference was not found to be statistically significant using a chi-square test. Additionally, age did not correlate with overall knowledge score.

No statistically significant difference was found between Rural and Peri-Urban Dominicans in terms of Pap smear uptake or overall knowledge.

Level of education did not have a significant impact on Pap smear uptake or knowledge of issues surrounding cervical cancer, though Haitians were found to have a significantly lower level of education than Dominicans.
The above comparisons were tested for statistical significance using a chi-square test. Tests confirmed a high rate of statistical significance between Dominican and Haitians (p-value=.0185) and Uninsured and Insured Dominicans (p-value=.0087) in terms of percentage of women who reported having had a Pap-smear within the past year. However, while slightly more rural Dominicans reported having had a Pap-smear within the last year than peri-urban Dominicans, the difference between the groups was not found to be statistically significant (p-value=.489).

The data used for the above tests was an overall knowledge score, constructed by using the number of questions, from 0 to 14, a woman could answer correctly regarding cervical cancer, pap-smears, and HPV. If a woman said she had not heard of one of these topics, she automatically received 0 points for all questions pertaining to that issue. The above comparisons were tested for statistical significance at the .05 level using a t-test. Tests confirmed statistical significance between knowledge scores of Dominican and Haitians (p-value=.0005) and uninsured and insured Dominicans (p-value=.0005). However, while rural Dominicans demonstrated a slightly lower average knowledge score than peri-urban Dominicans, the difference between the groups was not found to be statistically significant (p-value .2863).
A chi-square test revealed that differences in overall satisfaction with the quality of service at La Maternidad amongst women who had their last Pap-smear there were statistically significant (p<.05) between Haitians and Dominicans.

A comparison of screening rates within the last year revealed that women between the ages of 26 and 60 were more likely to be screened than women outside of this age range, an encouraging sign given that these women also compose the highest-risk age groups. However, at all levels, screening within the last year was less than 50 percent, indicating the need for greater Pap-smear coverage. NOTE: Differences in screening uptake amongst age groups were NOT found to be statistically significant using a chi-square test (.09). Age groups were set using ACCP standards.
Proposed Interventions

Given that cervical cancer has the highest mortality rate of any cancer affecting women in the Dominican Republic and that just 33 percent of survey respondents had been screened within the past year, as recommended by national guidelines, it is obvious that interventions with the aim of increasing screening uptake would prove beneficial. Additionally 16 percent of women surveyed reported that they never received results from their last Pap smear, while others could not understand the results they received, and still more reported that they did not have the means to follow-up on results they understood to be abnormal. It is therefore important to develop initiatives that improve the quality of screenings offered, empower women to utilize them, and connect patients requiring follow-up care to appropriate forms of treatment.

The following section proposes three interventions designed to achieve these goals:

- An Educational Campaign
- Strategies to Support La Maternidad’s Screening Services
- Further investigations into the possibility of directly providing screenings

Collectively, these interventions should work to remove key barriers to access, including a lack of awareness, financial issues, lack of time, fear and shame.

Timeframe

It is important to understand that the proposed interventions should not be enacted immediately. Instead, a strategic plan should be made up with HHI’s budget, staff capacity, and programmatic priorities in mind.

Educational Campaign

The Need for Education
While many women in HHI’s partner communities are somewhat familiar with cervical cancer, pap-smears, and HPV, there is still a tremendous opportunity for HHI to improve the depth and breadth of knowledge about these issues through an educational campaign. Twenty percent of women surveyed reported that they had never heard of cervical cancer and 36.8 of respondents had never heard of HPV. Even amongst women who were familiar with such issues, misconceptions that stigmatize illness, promote fear, and possibly discourage screenings were widespread. For example, only 49 percent of women who had heard of HPV could correctly identify whether or not it was a type of HIV, and two women, including an HHI Community Health Worker, commented that HPV was “worse than AIDS.” An educational campaign would therefore be extremely beneficial in giving women the knowledge necessary to make informed decisions regarding cervical cancer screenings and other healthy behaviors.

Key Objectives of the Educational Campaign:
1. To give women a clear and accurate understanding of what cervical cancer is and what part of women’s bodies it affects.
2. To educate women about HPV and its relationship to cervical cancer.
3. To help women identify key risk factors for and symptoms of cervical cancer and HPV.
4. To educate women about the importance of regular cervical cancer screenings.
5. To present clear information about what occurs during screenings and how to access them.
6. To teach women how to interpret results of screenings and where they can seek follow-up care.
7. To clarify common misconceptions regarding cervical cancer and HPV.

Structure of the Educational Campaign:
The proposed educational campaign should have three main parts:

- **Charlas (Educational Talks)**
- Home visits by members of the promotion team
- Incorporation of education into field clinic consults

The Promotion Team
HHI should draw upon its group of Community Health Workers to promote the educational campaign, and all health workers should be given a basic orientation to cervical cancer screenings during a regularly scheduled monthly class. However, HHI staff should also put together a specific promotion team, consisting of female CHWs and other interested community members who are willing to participate in the program.

While the Promotion Team can consist mainly of female CHWs who are willing to participate in this effort, special care should be taken to recruit at least one Haitian woman who is both fluent in Spanish and Creole (preferably at least one from Pancho Mateo and one from Severet). Given the fact that Pap-smear rates are significantly lower within the Haitian community and that culturally-specific beliefs may affect views of cervical cancer, it is absolutely imperative that native Creole speaking women are recruited for the team. Additionally, it would be helpful to recruit young, unmarried women for the team as well.

The training of the promotional team can be based upon the materials used to train the promotion team in the TATI Program, a joint initiative of the Pan American Health Organization (PAHO), the Program for Appropriate Technology in Health (PATH) and the Peruvian Ministry of Health to promote screening uptake in Peru (PATH, 2003). The guide for promotion team facilitators is available online: http://screening.iarc.fr/doc/RH_prevent_cc_sp.pdf

This resource was chosen as a guide due to its ease of use, relevance, and the fact that activities target women with limited levels of literacy. However, it is important that activities and materials are adjusted to fit the local context. In particular, the program should include the following:

- Information about specific clinics offering screenings in the area, their prices and their hours
- A lesson on how to interpret Pap-smear results. (While 84 percent of respondents indicated that they received the results of their last Pap smear, it was evident that when women produced these results for survey enumerators, many did not understand their implications).
- A workshop on “common myths” about cervical cancer that addresses the misconceptions discussed later in this section.

By the end of the training, promoters should be able to:

- Recruit members of their community to attend educational charlas.
• Lead a charla with the support of a HHI staff member and/or co-promoter.
• Provide accurate information to female community members during home visits.
• Answer community members’ basic questions regarding cervical cancer, HPV, and screenings.

Community Charlas
In a focus group, CHWs identified community-wide charlas as the best way of disseminating information about cervical cancer screenings. Similarly, the director of La Maternidad hospital also cited the need for health education via charlas. On a broader level, SeNaSa has already begun to implement charlas about cervical cancer prevention in the cities of Neyba and Jimaní. Given that 98.5 percent of survey respondents indicated that they would like more information about cervical cancer, it is reasonable to believe that if well-promoted, charlas would be attended widely.

Division of Responsibilities:
Recruitment for charlas should be the responsibility of the promoter(s). However, HHI should be sure to assist in providing materials to advertise the event. HHI staff should be present during charlas, but promoters should play a central role in running the event. However, given that 95 percent of women who have never had a Pap smear said they would be screened if a doctor recommended it, it is suggested that HHI invite a local doctor to the charla in order to lend authority to the information provided.

Target Audience:
The initial series of charlas should be aimed at providing general information to women who are sexually active. However, if this first stage is successful, it would be worthwhile to offer more specialized charlas. For example, in a focus group, HHI community health workers identified the need to educate teenage girls about cervical cancer and the importance of delaying sexual debut and practicing safe sex. Health workers also suggested talking to mothers of unmarried girls about the importance of encouraging Pap smears and speaking openly with their daughters about issues surrounding sexual health. Additionally, the Alliance for Cervical Cancer Prevention has cited the importance of involving men in the campaign to reduce cervical cancer.

Materials:
Given that just 24.2 percent of Dominican and 15.5 percent of Haitian survey respondents have been educated beyond primary school, it is important that the above information is presented in a way that can easily be understood by women with low-levels of literacy. As a result, it may be useful to purchase a handheld projector that can show brief educational films about cervical cancer. However, given budgetary concerns, an effort should be made to obtain posters and other visual images to emphasize key points. Role plays may also be used to keep the audience engaged. Additionally, brochures and other related materials should be obtained from the Ministry of Public health and distributed to women at the charla.

Content:
The following is a proposed outline for a community charla:
• Briefly introduce women to female anatomy, focusing on the cervix.
• Explain in simple terms what cancer is and how it can affect the cervix.
  o Highlight the fact that unlike many other cancers, cervical cancer is easily preventable and treatable in its early stages.
• Define HPV and identify it as the cause of cervical cancer.
  o Make clear that nearly 80 percent of women will suffer from HPV at some point in their lives but very few of them will develop cervical cancer.
    ▪ Clarify that HPV is NOT a type of HIV.
    ▪ Clarify that HPV cannot be transmitted from uncooked food.
  o Indicate that HPV affects both men and women, but rarely causes symptoms in either.
  o Identify limiting sex partners and condom use as strategies to reduce HPV transmission.
    ▪ Indicate that even if a woman does not have multiple sex partners, if her husband does, she could be at increased risk.
      • Be sure to clarify that not every woman who has HPV has an unfaithful husband.
• Introduce Pap smears as a way of detecting changes in the cervix that can become cancerous as well as other unrelated infections.
  o Explain what happens during a Pap smear.
    ▪ Be sure to clarify that a Pap smear does not treat illnesses, but rather detects them.
  o Explain possible results of a Pap smear, emphasizing that NOT all abnormal results indicate cancer.
    ▪ Discuss grades of pre-cancer and appropriate follow-up, mentioning repeated Pap-smears, colposcopy and biopsy.
    ▪ Explain that cancer in its early stages can simply be removed through biopsy and that a hysterectomy or chemotherapy is not always necessary.
  o Explain that all women who are or have been sexually active should be regularly screened.
    ▪ Indicate that unmarried women should be screened as well as married women.
    ▪ Emphasize that cancer does not have any symptoms in its early stages. Women should therefore NOT wait until they feel sick to be screened.
  o Offer information about the cost of Pap-smears at La Maternidad and the schedule of when they are offered.
    ▪ Point out that the Pap smear is completely free for women with Senasa.
  o Stress the importance of picking up results and asking the doctor if they do not understand something.
• Recap important information.
• Ask questions to check for understanding.
• Offer women the chance to ask questions.

Home Visits:
For women who are unable to attend a charla or would like more information about cervical cancer prevention in a private setting, promoters should be capable of conducting a home visit. Module VII of
the TATI Program facilitators’ manual can be used to train promoters for such situations. Job aids such as flipcharts or brochures should be used to help support promoters during this process.

Incorporation of Education into Field Clinic Consults:
Medical service trips provide an excellent opportunity for physicians to educate women about the need for cervical cancer screenings. Physicians should be instructed to ask every woman above the age of 18 about her Pap-smear history and recommend a screening at La Maternidad. They should also have the educational brochure used by the Ministry of Public Health about cervical cancer on hand to distribute to each sexually active woman above the age of 18.

If funds allow, physicians can also be instructed to give women who meet certain high risk criteria a referral slip to La Maternidad, which can be used for a Pap-smear paid for by HHI. Suggested high-risk criteria would be:

- The woman is over the age of 35
- She has been sexually active at some point in her life
- And she has not been screened in over 5 years

Additionally, women should be encouraged to bring in results from previous Pap-smears to be interpreted by the physicians, who can make recommendations regarding future care and provide referrals if necessary.

Common Myths:
Engender Health cites the need to develop “informational messages that address communities’ deep-rooted concerns about gynecological problems is especially important, since negative attitudes and limited understanding of the concept of cervical cancer prevention often contribute to a woman’s reluctance to seek screening” (Engender Health, n.d., p. 16). The needs assessment of HHI’s partner communities revealed the following misconceptions that should be addressed during the training of the promotion team and at all stages of the education program:

_Cervical Cancer Inevitably Leads to Death:_ 43 percent of survey respondents could not correctly answer “If a woman develops cervical cancer, is it certain that she will die from cancer?” and many expressed concerns about discovering that they have cervical cancer because they equated it with death. One woman who had never been screened claimed “though a woman may be operated on, she only lasts a few years... she will eventually die of [cancer]...they always die of this.” Another woman explained that she was too afraid to be screened because her mother was suffering from cervical cancer, but could not afford adequate treatment, and she thought that dying from the disease was inevitable without money for medical care. As a result, emphasis should be put on the fact that cervical cancer can be prevented and easily treated in its early stages.

_A Hysterectomy is the Only Cure:_ Only 33.3 percent of respondents could correctly answer the question “Is removing a woman’s uterus the only way to treat cervical cancer.” A pervasive belief that hysterectomies are necessary may come from medical providers themselves. For example, Dr. Marte, a physician at Centro Diagnostico Montellano who provides Pap-smears, suggested that all women who tested positive for aggressive strains of HPV have a hysterectomy as a preventive measure. The educational campaign should therefore educate women and providers, if possible, that lesions can be treated without invasive surgery that removes a woman’s uterus.
HPV is a type of HIV/AIDS: Just 49 percent of women who had heard of HPV could correctly answer the question “Is HPV a type of HIV/AIDS?” and two women, including an HHI Community Health Worker, commented that HPV was “worse than AIDS.” Efforts should be made to distinguish HPV from HIV and to indicate that nearly 80 percent of women will have HPV at some point in their lifetime, with very few women developing any form of complications.

Unclean Water Causes Cervical Cancer: Just 13.1 percent of respondents could correctly answer the question “Can washing with unclean water cause cervical cancer?” While using clean water should be promoted for overall gynecological health, it should be noted that cervical cancer is caused almost exclusively by infection with HPV.

A Pap-Smear is used to “Clean” a Woman: Two Haitian women both commented that a Pap-smear was used “to clean a woman out” and several women refused to participate in the survey, claiming that they were already “clean” and did not need a Pap-smear. Another woman claimed that a Pap-smear “is when they remove a ball of bad blood from your uterus.” Care should be taken to explain that a Pap-smear does not treat illness, but rather detects it. Additionally, gynecological infections should be equated to any other infection in the body in order to reduce stigma associated with “unclean” women.

Cervical Cancer is Caused by a Voodoo Curse: One Haitian woman explained that problems with the womb were caused by a curse put on them by an unfaithful husband’s lover: “The other woman prepares the man with an infection in order to kill his wife, this is where the cancer comes from.” A Haitian CHW confirmed that this voodoo belief was commonly held throughout the community. As a result, the educational campaign should indicate that not all women who have HPV or cervical cancer have unfaithful husbands.

Supporting La Maternidad:

Over two third of respondents identified La Maternidad as the location at which they most frequently access medical care. However, only 37 percent of respondents reported having had their last Pap-smear at La Maternidad. Given that La Maternidad’s proximity to HHI’s partner communities and subsidized services make it the most accessible clinic in the area, an effort should be made to strengthen the clinic’s screening program in hopes that it will provide coverage to a greater number of women.

Summary of Existing Services

Currently, La Maternidad offers Pap smears on Wednesday mornings. Pap smears are free for women with Senasa and cost 100 pesos for all other women. If the hospital runs out of disposable specula, women are expected to buy their own from La Botica Popular next door. In general, Dr. Carlos de Peña performs all exams, but occasionally the hospital hires other gynecologists to perform Pap smears. Samples are sent to a laboratory at Ricardo Limardo public hospital in Puerto Plata and results are supposed to arrive back at La Maternidad for pick up within 20 to 25 days.

Satisfaction with La Maternidad:
One reason for the discrepancy between the percentage of women who use La Maternidad as a medical home and the percentage of women who had their last Pap smear at the clinic may be a lack of satisfaction with the service provided. Forty percent of Dominicans and 5 out of 6 Haitians who had their last Pap smear at La Maternidad stated that they were unsatisfied with the service offered. Other women indicated that they had previously gone to La Maternidad, but switched to a different clinic for more recent Pap smears because they were unhappy with their experience. Still others had never been to La Maternidad for a Pap smear because the negative opinions of family and friends deterred them from doing so. In addition to clients’ concerns about the quality of care at La Maternidad, the director of the hospital was very forthcoming about the challenges the Pap smear program faces, including a lack of supplies and a slow turn-around time for results.

The COPE Strategy:

Considering a relatively high level of dissatisfaction with La Maternidad, HHI should attempt to partner with the hospital in order to help improve its services, and by extension, its reputation amongst women in HHI’s communities. Given that money and time were two of the foremost barriers to access, elevating community trust in La Maternidad, the nearest clinic with subsidized services, could help to reduce the effect of these barriers. One manner of achieving this goal may be to assist La Maternidad in implementing COPE® (client-oriented, provider-efficient services), Designed by EngenderHealth, COPE is a “a relatively simple process for improving quality in health services [that] encourages and enables service providers and other staff at a facility to assess the services they provide jointly with their supervisors” (Engender Health, 2011). More specifically, Engender Health has created “COPE® for Cervical Cancer Prevention Services: A Toolkit to Accompany the COPE® Handbook” which can be used to specifically help evaluate and improve La Maternidad’s Pap smear program (Engender Health, 2003). Assuming willingness on the part of La Maternidad staff, the COPE tool could be used to initiate a partnership between HHI and La Maternidad. The guide is available in Spanish at the following address:

http://www.engenderhealth.org/files/pubs/qi/toolbook/COPE_CVX_Span_FINAL.pdf

Areas of Improvement

In addition to the implementing COPE, HHI should advocate for improvements in the following areas:

Privacy and Confidentiality:

One of the greatest issues needing improvement is La Maternidad’s standards for privacy and confidentiality. The following are quotes from survey respondent’s regarding this theme:

“I don’t like to go to La Maternidad because of its lack of privacy….any person can enter [during the exam] and I don’t like that.”

“The staff at La Maternidad talk amongst themselves too much. They always say ‘look, so and so has cancer’ and the people don’t like this.”

“There isn’t much discretion.”

“They talk a lot and there is a lack of privacy.”
“I don’t like to go to La Maternidad because there is little privacy and the women there talk too much.”

“I don’t like doing it at Maternidad because of the lack of privacy.”

“If there’s not privacy, I won’t get a Pap smear. I don’t like the privacy in La Maternidad. I don’t feel comfortable.”

Additionally, one CHW stated that many women do not trust La Maternidad because they receive test results that have already been opened instead of sealed envelopes. Another CHW who frequently works in the hospital confirmed that this was a common issue and that nurses often discuss patients’ medical problems with the public saying, “Look at her, she has this and that one has this…”

Recommendations: HHI should politely call such issues to the attention of the director of La Maternidad and the nursing staff. HHI could then work with La Maternidad to ensure that the hospital has the sufficient curtains or screens to create entirely private areas for examinations. Additionally, HHI could work with La Maternidad and Salud Publica to run a training about the importance of confidentiality, stressing the fact that all patients have the right to receive sealed lab results.

Lost and Delayed Results:
Difficulty receiving results was another principal complaint about La Maternidad:

“I went to La Maternidad, but I never received my results. They told me that my results never arrived and I’ve never gone back.”

“I don’t like La Maternidad…it always takes two months to get your results.”

“I don’t want to go to La Maternidad because the results don’t arrive. I have a friend who spent 15 days going to look for her results and they never arrived.”

“I don’t trust La Maternidad. They take too long to give you back your results.”

Another woman claimed that she had gone to La Maternidad for a Pap smear once, but was given someone else’s results and hasn’t returned since.

The director of La Maternidad concurred that turn-around time for results was a challenge for the hospital. He indicated that under ideal conditions, results were returned in 20 to 25 days, but that they often took longer due to issues with the laboratory in Puerto Plata, which employs just two pathologists responsible for handling all the samples from public clinics throughout the region. He claimed, “The situation is complex….we are overwhelming the laboratory.” Additionally, La Maternidad does not contact individuals by phone when they’re lab results are ready, but rather gives them a date to come back and look for them. The director indicated that this system worked well for women who lived close by, but could be burdensome for women from rural communities who are forced to make repeated trips when results do not arrive on time.

Recommendations: In the future, HHI should speak further with La Maternidad and the Ministry of Public Health to determine whether or not there are areas in which HHI can help support the laboratory. In the meantime, HHI can offer to assist women from its partner communities by setting up a system by which patients can inform staff at La Maternidad that they would like their results to be placed in an HHI
file (like the existing system for labs). HHI staff could then be responsible for collecting results once every two weeks and distributing them to patients via community health workers in order to cut down on the costs of repeat trips.

Infrastructure and Supplies:
According to the director of La Maternidad, the greatest challenge in running a Pap smear program is a lack of supplies and infrastructure: “Generally the hospital lacks everything...specula, slides, everything. They send us 200 specula, but 220 women arrive.” Additionally, due to the fact that the hospital employs just one gynecologist who performs Pap smears on just one day a week, the hospital sometimes has to turn women away at the door: “So many women arrive and we can’t always see them all.”

Recommendations: HHI should hold a second meeting with the director of La Maternidad to gain more detailed information about the number of supplies needed to run the program in comparison to the quantities provided by the Ministry of Public Health. HHI should also research the ordering process to determine if any steps can be taken on La Maternidad’s end to ensure timely delivery of appropriate supplies. HHI may also help with advocating on La Maternidad’s behalf for a greater number of supplies, or if necessary, supplement the hospital with donations.

Institutional Racism:
Racism against Haitians may account for why 5 out of 6 Haitian women felt dissatisfied with their experience at La Maternidad, though further interviews would be necessary to confirm racism as a cause for dissatisfaction. However, an HHI staff member recently observed a Maternidad physician telling one of HHI’s Haitian patients that if she didn’t learn Spanish, she would be deported.

Recommendations: While a very sensitive topic, this issue should be addressed with the director of La Maternidad. Additionally, it may be helpful to see if Dr. Herman Guerrier, a physician of Haitian descent who speaks fluent Creole and has worked with HHI during field clinics, can be involved in the referrals of Haitian women in order to minimize the language barrier and opportunities for institutional racism.

Provision of Screening Services
While an educational campaign will play a key role in increasing demand for screenings, especially amongst women who claimed that that they didn’t know that they should be screened, it is crucial that services are available to meet this need. As previously discussed, in the long term, strengthening the services offered at La Maternidad would provide the most sustainable approach to improving the reach and efficacy of cervical cancer screenings. However, such improvements will not occur over night, and in the short term, HHI should make an effort to meet the immediate need for screening.

While it would still be possible to simply refer women to La Maternidad with HHI’s assistance in obtaining results, when considering large numbers of women, it is important to be conscientious of the La Maternidad’s concerns that such a program could place further stress on the hospital: “In reality the situation is complicated for us and for you as well...we are already overwhelming [the laboratory at] the public hospital and we don’t want to send them many more samples.” As a result, it is imperative that HHI design a screening program that provides broad coverage to high risk women but does not place undue stress on the services of La Maternidad.
In planning interventions, HHI should follow minimum guidelines published by the Alliance for Cervical Cancer Prevention. The ACCP’s manual, “Planning Appropriate Cervical Cancer Prevention Programs” is a particularly useful tool upon which many of the following recommendations were based. However, HHI must also be sure not to undermine national guidelines, which recommend screenings for all sexually active women about the age of 18 once every year.

**Target Age and Screening Interval:**

According to ACCP guidelines, new cervical cancer prevention programs should focus on screening “all women aged 35 to 50 at least once before expanding services to other age groups or decreasing the interval between screenings” (PATH, 2000, p. 1) As a result, while HHI’s educational campaign can focus on increasing demand for services by all women who are or have been sexually active, HHI should initially limit providing funds for screenings or other direct support to women between the ages of 35 to 50. If the program is successful and has appropriate funds, expansion can follow the ACCP suggestions for growth:

> “In countries where resources are limited, the aim should be to screen every woman in the target group once in her lifetime at about the age of 40 years. When resources are available the frequency of screening should be increased to once every 10 years, and then once every 5 years for women aged 35 to 55 years. If resources are high and a large proportion of the target group is being screened, screening should be extended, first to older women (up to age 60) and then to younger women (down to age 25). If additional resources are available and a high proportion of the target group is being screened every 5 years, the frequency of screening should then be increased to once every 3 years for women aged 25 to 60 years” (PATH, 2000, p. 1)

The following table describes the reduction of risk associated with various screening intervals.

<table>
<thead>
<tr>
<th>Frequency of Screening</th>
<th>Percent Reduction in Cumulative Rate</th>
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<tbody>
<tr>
<td>1 year</td>
<td>93</td>
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<tr>
<td>2 years</td>
<td>93</td>
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<tr>
<td>3 years</td>
<td>91</td>
</tr>
<tr>
<td>5 years</td>
<td>84</td>
</tr>
<tr>
<td>10 years</td>
<td>64</td>
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</table>

**Screening Services – VIA versus Pap Smears:**

HHI has two main options for selecting a screening program – Visual Inspection with Acetic Acid (VIA) and cytology (Pap smears). Both approaches come with unique benefits and challenges.

**Visual Inspection with Acetic Acid:**
Summary: The ACCP defines VIA as a screening approach that “involves swabbing the cervix with an acetic acid (vinegar) solution prior to visual examination. Differences in precancerous cell structure and absorption rates make abnormal cells temporarily turn white when exposed to this solution” (PATH, 2000, p. 13). Results of the test are based on direct observation rather than laboratory analysis, meaning that they are given to women on the spot. Women who test positive are referred for follow up, which may involve immediate treatment of suspected lesions with cryotherapy (discussed in more detail below) or referral for colposcopy and biopsy followed by appropriate treatment.

This approach has several key advantages in low –resource settings.

1. Results are immediate and based on direct observation, eliminating the issues of expense and lengthy result turn-around time associate with laboratories.
2. VIA utilizes household vinegar and eliminates the need for slides, fixatives, cervical brushes and lab fees, making it cheaper per-screening than Pap smears.
3. Due to these advantages, VIA can be performed in field clinics.

A meta-analysis of VIA programs commissioned by the ACCP showed that across 26 studies, test sensitivity was 80 percent and specificity was 92 percent. The study concluded that “most investigations have found that the sensitivity is as high as or higher than that of cytology (pap-smears)” and that in developing countries “visual inspection methods, especially VIA, provide a reliable and effective means for reducing the burden of cervical cancer” (PATH, 2011, p. 3).

Advantages of Cytology (Pap-smear Programs):

While the sensitivity of VIA and Pap-smears are comparable, and VIA may be easier to implement in the field, it is important to keep in mind that the local public healthcare system, including La Maternidad and Hospital Ricardo Limardo, do have an existing system of screening in place that relies on cytology for identification of cancerous and pre-cancerous lesions. Interviews with both officials in the public sector (Ministry of Public Health and La Maternidad) as well as the private sector (Centro Medico Cabarete and Centro Diagnostico Montellano), revealed zero familiarity with the VIA method, though Dr. Carlos de Pena from the MOH expressed interest in learning more about VIA. As a result, while the infrastructural inputs into this method are substantially lower than that of Pap-smear programs, HHI would have to spend a great deal of time training healthcare providers to perform VIA as well as ensure that physicians within HHI’s referral network trusted the results in order to avoid repeat testing. Additionally, HHI would have to ensure that patients accustomed to Pap-smears were accepting of the new method. On the other hand, relying on a Pap smear program would enable HHI to utilize the existing skills of local healthcare providers in an approach with which patients are already familiar.

Additionally, it is important to keep in mind that Pap-smears do not only detect pre-cancerous lesions, but other types of infections as well. As a result, Pap-smears would afford HHI the opportunity to identify and provide care to women suffering from other gynecological infections.
**Treatment of Pre-Cancerous Lesions:**

When implementing a screening program, HHI must also consider how women that are suspicious for pre-cancerous lesions and cancer are referred for treatment.

**Colposcopy and Biopsy:** Currently, women with Pap-smear results of CIN 2 or greater (suspicious for pre-cancerous lesions) are referred for colposcopically-directed biopsy, considered to be the “gold standard” for testing. Colposcopy is the examination of the cervix under magnification and bright lighting to identify visible clues suggestive of abnormal tissue. Biopsies can be taken of areas that appear abnormal (PATH, 2011, p. 3). Further treatment depends on biopsy results. In the public system, colposcopy is only offered at Hospital Ricardo Limardo in Puerto Plata.

**Cryotherapy:** “Cryotherapy is a relatively simple procedure that destroys precancerous cells by freezing the cervix, using compressed carbon dioxide (CO2) or nitrous oxide (N2O) gas as the coolant” (Alliance for Cervical Cancer Prevention, 2004, p. 10). Unlike colposcopy and biopsy, the procedure can be performed easily and quickly (in 15 minutes or less) without anesthesia. Additionally, it can be safely and effectively performed by general practitioners and non-physicians in a primary care setting, including field clinics. It is appropriate for women suspicious for pre-cancerous lesions, but not of invasive cancer (Alliance for Cervical Cancer Prevention, 2004, p. 10).

One of the main advantages of the cryotherapy is that it can be combined with VIA to identify and treat pre-cancerous lesions in a single visit (Pap-smears combined with colposcopy require multiple visits over the course of several weeks or months due to long delays obtaining laboratory results). According to the ACCP, “cryotherapy, when conducted by competent providers, is safe and results in cure rates of 85% or greater.” As a result, the ACCP has concluded that “The most efficient and effective strategy for detecting and treating cervical cancer precursors in low-resource settings is to screen using either visual inspection with acetic acid (VIA) or human papillomavirus (HPV) DNA testing and then to treat using cryotherapy” (PATH, 2011, p. 1).

However, as with VIA, neither local healthcare providers nor patients are currently familiar with this system. As a result, instituting it would require substantial energy in training providers and educating patients.

The following tables present potential interventions in which HHI could get involved. However, it is of utmost importance to conduct further research regarding the feasibility of these options before choosing one. In particular HHI should determine the following before moving forward:

- **Willingness of La Maternidad to provide Pap-smears for a high volume of HHI patients.**
  - If so, would Pap-smears be offered at the existing price structure, or would HHI have to use a private lab. If using a private lab, what are the costs?
- **Interest of La Maternidad in training staff members in VIA and/or cryotherapy.**
- **The willingness of MOH to accept and support a shift toward VIA/cryotherapy during HHI field clinics and/or at La Maternidad hospital.**
- **The cost of colposcopy and biopsy at Ricardo Limardo as well as the turn around time of biopsy results.**
- **Capacity of Ricardo Limardo to accept a high volume of patients and willingness to coordinate on provision of care.**
# Pros and Cons of Potential Interventions

## Pap Smear Centered Programs

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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</thead>
<tbody>
<tr>
<td>• Uses existing system with which local doctors and patients are familiar</td>
<td>• Director of La Maternidad does not want an upsurge in patients seeking Pap smears due to the fact that the Puerto Plata lab is already overwhelmed.</td>
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<tr>
<td>• Does not depend on foreign doctors</td>
<td>• High patient dissatisfaction with La Maternidad.</td>
</tr>
<tr>
<td>• Higher specificity than VIA</td>
<td>• Slow turn-around time on results.</td>
</tr>
<tr>
<td>• Can be done entirely in the existing public system</td>
<td>• HHI must follow up with all screened women to get them their results.</td>
</tr>
<tr>
<td>• Free for women with SENASA</td>
<td>• Pap smears will detect a high number of infections unrelated to cancer that require further testing and follow up.</td>
</tr>
<tr>
<td></td>
<td>• Less sensitive than VIA</td>
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**Option 1:**

**CHWs Provide Pap Referrals:**

Either at *charlas* or through a door to door campaign, CHWs will provide referrals for Pap smears at La Maternidad for women between the ages of 35-50 (highest risk age group) who have not been screened in the past five years and for women who have had irregular results in the past but have not received follow up. HHI will pay for the cost of the Pap smear as well as for transportation when necessary.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
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<tbody>
<tr>
<td>• Reaches women who do not come to field clinics.</td>
<td>• CHWs may feel uncomfortable telling friends and neighbors that they do not qualify for a referral.</td>
</tr>
<tr>
<td>• Avoids providing repeat screenings for women who have recently had a Pap smear.</td>
<td>• Women may be less forthcoming regarding their Pap smear history with CHWs rather than with doctors (especially in the Haitian community).</td>
</tr>
<tr>
<td>• Involves CHWs in the case-finding process.</td>
<td>• Women may not understand why some individuals received a referral and others did not.</td>
</tr>
<tr>
<td></td>
<td>• Many women who have had irregular Pap smears in the past may have misunderstood their results, indicating that they did not need follow up. These women would not receive a referral.</td>
</tr>
</tbody>
</table>

**Option 2**

**Pap Smear Day at Maternidad:**

All women within the ages of 35 to 50 are invited to come to a day at La Maternidad to receive a Pap smear paid for or subsidized by HHI.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Would provide broad coverage to high-risk women.</td>
<td>• High volume equals high cost.</td>
</tr>
<tr>
<td>• Would ensure that women who were previously lost to follow up were entered into HHI’s system.</td>
<td>• High risk of overwhelming laboratory/potential need to use private lab, driving up costs further.</td>
</tr>
<tr>
<td>• Results would presumably be returned at around the same time, making follow-up easier.</td>
<td>• High likelihood of providing Paps to women who have recently been screened.</td>
</tr>
<tr>
<td>• Engages local system.</td>
<td>• Dependent on La Maternidad's capacity.</td>
</tr>
</tbody>
</table>
VIA Centered Programs

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Can screen large numbers of women</td>
<td>• HHI provided screenings may compete with local system/make women dependent on HHI for services.</td>
</tr>
<tr>
<td>• Low cost in comparison to Pap smear</td>
<td>• Local doctors/healthcare officials are not trained in VIA, making program dependent on foreign doctors in the beginning.</td>
</tr>
<tr>
<td>• Immediate results (no lab required)</td>
<td>• May result in confusion amongst patients who are now confronted with using two different systems.</td>
</tr>
<tr>
<td>• Removes barriers such as lack of confidentiality, racism, etc.</td>
<td>• High number of false-positives, resulting in the need for additional testing (Paps) or cryotherapy.</td>
</tr>
<tr>
<td>• Would offer healthcare providers opportunity to be trained in new system.</td>
<td>• May be difficult to find US docs familiar with this method.</td>
</tr>
<tr>
<td>• Could be performed in partner communities, making screening more accessible.</td>
<td></td>
</tr>
<tr>
<td>• Higher sensitivity than Pap-smear.</td>
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</tbody>
</table>

Option 1
VIA + Cryotherapy:

U.S. physicians trained in VIA and cryotherapy screen all women between the ages of 35 and 50, either at La Maternidad, another clinic space, or during field clinics in local communities. Women testing positive for precancer would be treated with cryotherapy and followed up by community health workers. Women whose results indicate a suspicion of cancer would be referred to the local system for biopsy and treatment. Throughout this process, foreign physicians would also train local healthcare providers in this method.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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</thead>
<tbody>
<tr>
<td>• Considered by the Alliance for Cervical Cancer Prevention to be the most effective and efficient program for low resource settings.</td>
<td>• Cryotherapy is not used in the local system, requiring training of local physicians by foreign doctors.</td>
</tr>
<tr>
<td>• Women could be treated during a single-visit approach, eliminating loss to follow up.</td>
<td>• Ethical issues if anything were to go wrong during cryotherapy</td>
</tr>
<tr>
<td>• Substantially cheaper than other screen and treat methods.</td>
<td>• May be difficult to find US physicians trained in cryotherapy</td>
</tr>
<tr>
<td>• May reduce over prescription of hysterectomies.</td>
<td>• Relatively high number of false positives may result in overtreatment</td>
</tr>
<tr>
<td>• 85 percent cure rate.</td>
<td>• Number of women requiring cryotherapy may be relatively small and not justify the effort put into the program.</td>
</tr>
</tbody>
</table>

Option 2
VIA + Pap and/or Colposcopy

Women testing positive for precancer in VIA and those whose results indicate a suspicion of cancer would be referred to Ricardo Limardo for colposcopy and, if necessary, further treatment. Foreign physicians train local healthcare providers in VIA.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>• HHI not directly responsible for issues that could arise during or after treatment.</td>
<td>• Greater chance of loss to follow up (transportation and time constraints still present barriers for women requiring follow up).</td>
</tr>
<tr>
<td>• Treatment of pre-cancer is in line with local practices.</td>
<td>• Risk of public system overindicating hysterectomies.</td>
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<tr>
<td></td>
<td>• Greater coordination of patient care necessary.</td>
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<td></td>
<td>• Likely exponentially more expensive than cryotherapy.</td>
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</table>
Conclusion:
The cervical cancer needs assessment clearly demonstrates the need for greater Pap-smear uptake amongst women in HHI’s communities - less than 1/3 of sexually active women above the age of 18 have been screened within the last year (the national guideline for screening frequency) and loss-to-follow-up further diminishes the effectiveness of these screenings. As a result, it is clear that actions must be taken to improve awareness about, access to, and the quality of screening services. This paper has proposed an educational campaign to increase public awareness about the importance of screenings and has identified specific steps that can be taken to evaluate and improve the overall quality of existing services at La Maternidad Hospital. However, the crucial questions of whether or not HHI can directly provide services, and if so, which services it should provide, remain unanswered. As a next step, HHI must consider its staff capacity and finances as well as discuss potential interventions with local healthcare providers – only then can it effectively move ahead in reducing the incidence and burden of cervical cancer within its partner communities.
Bibliography


