

## Patient Satisfaction in a Statewide Cervical Cancer Screening Program

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### Abstract

A cross-sectional study of patients participating in the Nevada State Health Division's Women Health Connection Program (WHC) was conducted to assess patient satisfaction for cervical cancer screening. In this study, 528 WHC program patients provided information regarding their satisfaction with the treatment services they received, accessibility issues, breast and cervical cancer health education and information, and overall program satisfaction. A large majority of patients reported high levels of satisfaction with the program services and clinic personnel. Significant positive correlations were found when comparing satisfaction with services received at the clinic to treatment received by physicians, nurses, and admissions personnel, how well information provided to patients eased their concerns, and when results were discussed with patients. Wait time for admission and to see a physician were negatively correlated to satisfaction. Those who reported that they would not use services again indicated lower levels of satisfaction with the information received and treatment from caregivers and admissions personnel when compared to those who would use the program again.

Keywords: Patient Satisfaction, Low-income, Cervical Cancer.

### Introduction

According to the Center for Disease Control and Prevention (CDC), an estimated two million American women will be diagnosed with breast or cervical cancer in this decade, and half of them will lose their lives to this disease. A disproportionate number of deaths are expected to occur among women of minority and low-income groups (CDC, 2003). However, many of these deaths can be avoided by making screening services available to women of all ethnic background. Nearly one-third of all low-income women is uninsured and must rely on safety-net solutions to obtain basic health care services. Because the rate of low-income and uninsured women is higher among minorities, minority women are more likely to be diagnosed with cervical cancer (Bradley, Given, Roberts, 2004). To address these disparities, the CDC implemented the Breast and Cervical Cancer Early Detection Program (BCCEDP) to provide screening and early detection to uninsured low-income women 45-64 years of age.

Previous projections by the CDC have estimated that at the national level, 175,000 new cases of breast cancer and 12,800 new cases of cervical cancer were diagnosed in 1999. The CDC estimates that by the year 2010, 43,300 women will die from breast cancer and 4,800 women will die from cervical cancer (CDC,

2003). Therefore, early detection efforts are an important tool in the process of cancer prevention to all women. In Nevada, the CDC funds the State Health Division for implementation of the Women's Health Connection (WHC) Program. Through the WHC program, all enrolled income-eligible women between 40-64 years of age can receive cervical cancer screening, which includes pelvic exams and pap smears, and clinical breast exams (CBEs). The program does not provide funding for treatment of detected cancers, but treatment services are available through a network of providers associated with the program. According to WHC program staff, nearly 250,000 women were eligible for WHC services in Nevada in 2001. In addition, the American Cancer Society projected 10,300 newly diagnosed cases and 4,300 deaths in Nevada for all types of cancers, (ACS, 2003). Nevada's five-year survival rates of cancer are lower than the overall rates in the U.S. in part due to lack of early detection and educational programs (ACS, 2003). Due to these shortcomings, the CDC awarded the Nevada State Health Division a \$2.6 million grant in 2002 to provide screening and diagnostic services for breast and cervical cancer to all women in the state of Nevada (ACS, 2003).

This study is an attempt to determine the quality of the services provided as perceived by the WHC client by assessing patient satisfaction. This research study has focused particularly on cervical cancer as a way to identify some key issues that may need to be addressed, and seek ways to better improve them. The survey, implemented in the summer of 2003, selected women who had received cervical cancer screens within the previous two years. Because patient satisfaction is a major contributor to continued participation in health care screening programs, the WHC program initiated a study of women who had been provided with screening services through this program. The intent of the study was to determine if prominently important satisfaction issues such as access to care, communication with physicians and clinicians, satisfaction with treatment received, and service satisfaction will impact the likelihood of overall satisfaction and the continued use of the program.

#### **Literature Review**

High satisfaction levels are common in the health care industry, but there is limited research regarding satisfaction in government funded screening programs. Even though cervical cancer screening services provided to the WHC clients are free, determining the success of these types of programs rely on high levels of patient satisfaction to assure that target groups continue to use the services. Secondary prevention of cervical cancer through Pap smear test is one of the major triumphs of women's health. In addition, the availability of free health screening services, such as those provided by the NBCEDP, can also improve life expectancy cancer survivability (Mc David, Thomas, Tucker, Michael, 2003). The key to early detection in symptom-free women is through the use of tests such as the Papanicolaous (Pap) test for cervical cancer and mammography screens for breast cancer (Allen and Phillips, 1997). Patients who are satisfied with their providers' performance are more likely to continue seeing their primary care provider, and those who are dissatisfied are more likely to leave, (Steiber, 1990, p. 11). In addition, dissatisfied patients can also influence others not to use a particular program or provider (Steiber, 1990, p. 4).

Previous studies regarding women's health have shown that some socio-economic factors such as lack of health insurance, minimal access to primary health care services, lack of transportation, lack of child care during the time of services, and an overall lack of enough health

education can impede access to health care services and increase the likelihood of late diagnosis and reduce survival rates (Schroedel and Herndon, 2004). Other factors that face not only the WHC clients but also other women of low-income groups include: fear of finding the truth, general costs, and communications barriers. Language barriers stand out to be one of the major problems to many patients while communicating with their physicians (Reith and Herndon, 2004).

Patient satisfaction is highly related with the utilization of accessible services and the outcome of the services being provided (Burke et al., 2003). The WHC program, while not providing treatment in the event of detection of cancer, is intended to assist women in getting necessary treatment. Therefore, it is important to find out if women report receiving any additional information regarding access to other health services. In a study in the *Journal of Women's Health*, most women reported that they were very satisfied with the care that they received during all cancer screening exams. They were also happy with the level of information and specific education that they received from their providers, and were more likely to be satisfied if they perceived their providers being relaxed during their screening exams (Foxall, Barron, Houfek, 2003). Patient education by providers during office visits has been found to be a predictor of return visits for screening, even though in some cases, language barriers may increase the difficulties of informative education (Foxall et al., 2003).

The literature also shows that the ability to obtain free cancer screens is more difficult in many rural areas relative their access to urban areas (Stearns, Slifkin, Edin, 2000). Many women in rural Nevada rely on community health centers or the "mammovan" which is operated by the State and the Susan B. Komen Foundation for breast and cervical cancer screening. Since low-income women are less likely to provide information on access to, utilization of, and satisfaction with cancer screening services (Stearns, et al., 2000), understanding whether disparities exist based on a woman's regional location is one of the goals of this study.

Research has also shown that racial and ethnic differences exist when it comes to early detection of different types of cancers due to lack of health insurance coverage (Almeida, Dubay, Ko, 2001). Uninsured persons, and in particular uninsured minority groups, are more likely to be

diagnosed in the latter stages of cancer than persons with health care insurance (Roetzheim, et. al., 1999). Thus, this study will also examine any existing disparities that may exist among low income women in free cervical cancer screening services in the state of Nevada. One of the major goals of the NBCCEDP and the WHC program is to target minority women who have historically been at higher risk for having later stages of cancer prior to diagnosis improve access.

In addition, patients may have other medical problems or issues that need to be addressed. One interesting aspect of this study relates to whether patients have other medical problems unrelated to the screening appointment. Although the NBCCEDP only pays for cervical and breast exams, it provides both patients and providers alike opportunities to address other conditions. Public health care programs, such as the one funded through the NBCCEDP, can serve as a safety net for uninsured patients and can serve as a substitute health care provider (Rask, 2005). However, language and cultural barriers may inhibit patients from seeking information about their other health care needs (Casey, Blewett, Call, 2004; Almeida, et. al., 2001).

Another important factor for satisfaction is the level of communication between the patient and the medical, clinical, and administrative providers in health care organizations. Communication relates to how well the patient understood the treatment received, whether all questions were answered, and if the patient felt the caregiver was concerned about their personal health issues. Treatment by others in the clinic including nursing and administrative personnel is another important satisfaction issue (Peltier, et. al., 2001). Convenience of services also relate to satisfaction which included clinic hours, ability to get an appointment, access to services, and the time spent waiting to in the clinic to see the caregiver. Finally, follow-up issues are important measures of satisfaction including obtaining results in a timely fashion and the ability to receive referral services if needed.

Continuous quality improvement in healthcare organizations remains to be a valuable tool for improving services to patients, and the way an organization delivers its services, (Cochran, Moseley, Peltier, 2004). The quality improvement concept is essential to further health services research as a way to reduce gender disparities in the process and outcomes of

care, and optimize the quality of care for most women. Weisman has suggested that, many women are usually the decision makers for their family's health care needs, (Weisman, 2000).

### **Methodology**

A questionnaire was developed in English and Spanish with 27 questions regarding access, admission, patient information, and clinical and service satisfaction breast and cervical cancer screens. Questions were developed based on evaluations conducted by other NBCCEDP providers, CDC measures, literature on breast and cervical cancer, and input from program staff members. Respondents were also given five subjective questions to comment on specific caregivers and the WHC program in general.

Questions that were related to the amount of time spent included: the amount of time needed to get an appointment, how much time patients spent in the waiting room, how much time patients waited to be seen by a nurse or doctor, if the clinic hours were convenient, and how much time it took the patient to get to the facility. Another set of questions related to patient satisfaction were based on clinical treatment of patients while at the facility. These sets of questions wanted to explore if the admission staff were pleasant, if the admission staff helped patients make future follow-up appointments, and if the nurses or doctors offered to help patients with their other healthcare needs. Previous studies have attributed the amount of time patients spend waiting to see the physician as adversely affecting satisfaction (Wolosin, 2005).

The third set of questions addressed satisfaction with the information that patients received while at the clinic. The questionnaire intended to find out if staff members knew about the program, if the results of the exams were discussed by the doctor, how well did any information that was received made it easier for patients to ease their concerns, and if there was any information that was given to patients to take home with them. Finally, the last set of questions wanted to explore on the general quality of service that was received. These questions addressed the issues of privacy while receiving their screening services, if patients were taught to self examine themselves for any abnormalities that could be related to cancer, if patients would refer a friend or a relative to the same physician, and if patients would re-use the WHC program services again.

Because of the likelihood that women did not receive both cervical cancer screening and mammography screens, patients were asked about their experience based on the types of screens that they received. If patients received both screens, they were asked to answer questions in both categories. For the purpose of this survey, only those responses related to cervical cancer screens were used.

The questionnaire was mailed to 2,070 reported women who had used WHC program services within the last two years for breast and/or cervical cancer screens between January 1, 2002 and April, 2003. Two mailings were distributed of which 311 surveys were returned undeliverable, and responses were received from 598 women. For the purpose of this study, 70 surveys were eliminated because respondents answered only questions related to the breast cancer screening.

Only women who had received the screening services in Nevada were included in the study, four surveys were not included because services had been provided out of state.

The surveys were recoded to identify the three levels of measurement for this study based on the location. Women who had received screening services in Washoe and Carson counties were combined to create the variable for Northern Nevada. Those who received services in Clark County were used for Southern Nevada respondents, and the remaining responses were combined to create the variable for rural Nevada. Multivariate analysis was completed on the data to assess differences based on location and satisfaction.

A  $\chi^2$  analysis was completed to determine whether respondents were representative of the survey sample based on race/ethnicity and by region. The analysis found no significant differences in either group.

### Results

For the purpose of this study, the respondents were categorized into three major regions: Southern Nevada, Northern Nevada, and Rural Counties. Southern Nevada (307 respondents or 58.1%) included all respondents

**Table 1: Descriptive Analysis of Characteristics of Clinic used by patient by Region**

Measure	All	Southern NV	Northern NV	Rural NV
Race (Pct.) (n=525)				
White, non-Hispanic	43.6	37.1	48.5	58.8
Hispanic	38.9	41.7	39.7	26.8*
African American	6.9	10.4*	2.9	0
Asian/Pacific	3.4	4.2	3.7	0
Other	7.2	6.5	5.4	13.7*
All Races	100.0	58.5	25.9	15.6
Primary Language Spoken				
English	66.7	62.9	66.2	85.4*
Spanish	33.3	38.1*	31.8	14.6
Time needed to get appointment				
Less than one week	52.7	57.2	46.2	46.8
1-2 Weeks	25.1	22.4	28.8	29.1
2-3 Weeks	7.8	5.7	11.4	10.1
3-4 Weeks	7.1	6.7	8.3	6.3
More than 4 weeks	7.3	8.0	5.3	7.6
Time needed to get to clinic				
Less than 10 minutes	20.8	15.2	25.2	34.7
10-20 minutes	43.1	42.9	45.2	40.0
20-30 minutes	21.6	27.0*	14.8	13.3
More than 30 minutes	14.4	14.9	14.8	12.0
Transportation Methods				
Drove self	55.8	50.9	56.0	74.7*
Driven by other	23.8	23.7	25.4	21.3
Bus	11.2	14.4	10.4	0
Walked	4.6	4.1	6.0	4.0
Other	4.6	6.9	2.2	0
Facility where service provided				
Private physician	9.6	10.7	9.2	6.3
Health clinic	68.1	67.1	68.7	70.9
Hospital/Hospital clinic	8.7	10.1	6.1	8.7
Other	13.6	12.1	16.0	15.2

from Clark County including the cities of Las Vegas, North Las Vegas, Henderson, and Mesquite. Northern Nevada (136 respondents or 25.9%) included Washoe County and Carson County. The remaining counties were categorized as rural counties (82 respondents or 15.5%).

Table 1 describes the race and ethnicity of participants in the survey. In this study, 43.6% of the respondents were White/Non-Hispanic, 38.9% were Hispanic, 6.9% were Asian/Pacific Islander, and 7.2% other. A significant number of respondents indicated that their primary language was Spanish, with a higher percentage of this group residing in Southern Nevada than in the other regions in this study. Southern Nevada had a higher percentage of patients whose primary language was Spanish than other areas in the state. The findings indicate that, on average, it took longer to get to the clinic in Southern Nevada and that women in rural areas were more likely to drive themselves to the visit.

Table 2 identifies differences in the provision of specific clinical services based on race and ethnicity. Due to the small number of American Indian respondents, Race/Ethnicity was recoded into five categories: White, Non-Hispanic, Hispanic/Latino, African American, Asian/Pacific Islander, and "other". The analysis revealed that minority groups, particularly Hispanics/Latinas and African-Americans were more likely to report longer waiting times compared to White patients. Minority patients

were also more likely to have been taught how to conduct self breast exams (72-76%) than white patients were (50.5%). Whites were more likely to report that they already knew how to conduct the self-breast exam than most other groups. White patients were less likely to say they did not need appointments for other health care needs than the other races and Hispanics were less likely to report that they did not need any other exams.

Women were asked about their level of satisfaction with services received at the clinic (Table 3). A correlation analysis comparing their level of satisfaction with variables found in previous research to influence satisfaction was conducted. With regard to measures of time, there is a significant negative correlation between the amount of time spent in the waiting area and exam room to satisfaction with services received indicating that the more time that was spent waiting for services, the less satisfaction of services. There was also a significant positive correlation between service satisfaction and the quality of information (poor to outstanding) provided to the patient. Significant positive correlations were found regarding whether patients would use the service again or refer others to the clinic are an indication that those who were less satisfied would not use the service again or refer others for services. Conversely, the data indicates that better treatment by physicians, nurses, and other clinic staff, increased the likelihood of patient satisfaction. It is also

**Table 2: Access and Treatment Measures, Percentage by Race**

Measure	All	White, Non-Hispanic	Hispanic	African-American	Other
Time spent waiting room					
Less than 10 min	21.3	22.4	19.2	28.6	20.0
10-20 min	45.3	50.9	39.4	31.4	55.0
20-30 min	15.0	14.0	19.2*	8.6	5.0
More than 30 min	18.4	12.7	22.0	31.4*	20.0
Patients taught self breast exam					
Yes	63.3	50.5	75.5	72.4	74.4
No	14.1	12.7	17.3*	8.6	10.3
Already knew	22.7	36.8	7.1*	28.6	15.4
Clinic made appt. for other needs					
Yes	55.6	51.9	60.3	47.2	59.0
No	13.0	9.8*	15.6	17.6	12.8
Didn't need other appt.	31.5	38.3	24.1	35.3	28.2
Info. provided to take home					
Yes	61.2	57.5	63.5	64.7	66.7
No	38.8	42.5	36.5	35.3	33.3

\*Level of significance p.<.05 N=525

worth mentioning that in a binary logistic analysis of three binary variables “all patient questions answered”, “discussion about other health needs”, and “referral provided for other health needs” there was a significant positive correlation to satisfaction, although the  $R^2$  and corresponding R values were small.

To determine where improvements might be needed based on patient satisfaction, an assessment was computed to assess differences in those that would use the program again compared to those who said they would not use the program again (Table 4). Although there were very few respondents who indicated that they would not use the WHC program again, the program was interested in determining what factors might indicate the reasons for not returning. Since return visits by patients is one of the main goals of the WHC program, a means test was completed to assess differences for those who would and would not continue to use services. Significant findings for those who indicated they would not use the program in the future found higher wait times in the waiting room and exam room, and were less likely to be satisfied with the treatment by physicians, nurses and admissions personnel. Those who would use services again were far more likely to have reported that the information provided eased their concerns and satisfaction with the service provided by the program. Worth reporting were differences in time needed to get an appointment, the level to which information provided eased patients concerns, and satisfaction with services at the clinic.

Measures regarding discussion with the physician or clinicians about other health care needs and referral to other providers indicated that there were no major differences across regional or racial/ethnic boundaries. However, it is significant to point out that 30 percent of the patients indicated that they were not able to

discuss their other health care needs with physicians and 32 percent replied that appointments were not made for their other health care needs.

### Discussion

The findings in this study indicate that, on average, patients are very satisfied with the services that they receive from the WHC program. In looking at regional differences in this study, it was found that wait times tend to be longer in Southern Nevada than the other parts of the state. This information should not be surprising given the manpower shortage facing the Clark County region and given the large population growth.

Another important aspect of the study indicates that the program has been successful in targeting minority women, particularly Hispanics. While the overall population of Hispanics in Nevada is approximately 27%, nearly 39% of the respondents in this study were Hispanic. Perhaps even more important was the information that a larger percentage of Hispanics and other races were taught self breast exam techniques than others were, especially in light of the findings that Whites and African Americans were more likely to already know how to conduct the self exam than the other two groups. Still, there is room for improvement regarding this measure in that more than 14% of all women were not taught how to conduct the self-breast exam.

One interesting finding not noted in the analysis shows that Hispanic women reported that they tended to wait longer in the waiting room and exam room than other women. However, this does not seem to dissuade them from continuing to use the program. Moreover, variables related to time can be difficult to accurately measure since they tend to be subject to bias or cultural factors. First, time factors are particularly sensitive to recall bias. That several

**Table 3: Correlation analysis of selected variables with level of satisfaction of services received**

Measure	Coefficients	Significance
Time spent in waiting room	-.208	.000
Time spent in exam room	-.175	.000
Results discussed with patient	.241	.000
Information eased concerns	.385	.000
Would use program again	.243	.000
Would refer others to program	.239	.000
Treatment by physicians	.403	.000
Treatment by nurses	.398	.000
Treatment by other admin.	.350	.000

**Table 4: Comparison of mean and standard deviation for those who would and would not use program again**

Measure	Would use program again (n=27)	Would not use program again (n=467)
Time needed for appointment	1.90 (1.23)	2.20 (1.47)
Time spent in waiting room	2.28 (1.00)	2.92 (1.02)
Time spent in exam room	1.47 (0.70)	2.04 (1.11)*
Information provided eased concerns	3.57 (0.69)	2.17 (1.13)
Satisfaction with service at clinic	3.37 (0.760)	2.40 (0.913)
Satisfaction with nurses	3.67 (0.56)	3.20 (0.76)*
Satisfaction with physicians	3.73 (0.49)	2.81 (0.93)*
Satisfaction with treatment by admissions	3.55 (0.65)	3.04 (0.98)*

\*Level of significance  $p < .05$  N=525

weeks or months may have passed since the clinic visit increases the possibility of recall bias. Also, several studies have found previously that Hispanics have different perceptions of time spent for services than other races (Comer and Nicholls, 2000; Dolinsky and Stinerock, 1998). It is also clear, and not unusual, that transportation factors were less of an issue in the rural areas than they are in the rest of the state. Given that little or no public transportation is available, it is expected that women residing in the rural communities are more likely to have their own transportation than are those in more urban areas.

In the correlation analysis comparing key clinical satisfaction and quality issues to satisfaction with the WHC program services, it is apparent that the rate of satisfaction across most measures is very high. However, the amount of time spent waiting for services appear to affect satisfaction. In a further assessment of the impact of waiting time on satisfaction, differences were confirmed. An analysis of variance was completed in which the combined scores for clinical satisfaction (physicians, nurses, and other clinic staff) were used as a surrogate variable for overall satisfaction. This analysis revealed that those who had to wait longer for services clearly showed that they were less satisfied overall than those who were able to see the physician or clinician more quickly. Low-income women frequently face hardships in getting appointment hardships due to work, child care and other family issues, and transportation

needs; therefore, the need to shorten wait times is important to get women to come back for follow-up care or routine checkups (Reith, et al., 2004). Further assessment of the data to compare those who stated that they would use the service again to those who would not indicates perceived satisfaction differences based on access issues and satisfaction with the quality of treatment. These findings support previous research regarding the impact of wait time, access to clinics, and time spent getting to clinics (Akinic, Sinay, 2003; Schroedel et al, 2004).

Among those that appear to be less satisfied, the perceptions of the providers and the information they received appeared to have influenced their attitudes toward satisfaction. Developing relationships with patients have a great influence on whether a patient continues to see his or her provider (Peltier, Cochran, Schibrowski, 2002). Moreover, many of the respondents commented on the survey about their strong feelings toward their provider. Comments such as "he is a wonderful physician", and "very caring and professional" were common. On the other hand, those who would not use the program again tended to make comments about the lack of information provided to them, particularly regarding follow-up care.

Given the high level of satisfaction regarding most of the measures of this study, one implication may be that the need to improve satisfaction is not a critical issue at this juncture. Clearly, the overwhelming numbers that are

satisfied with the services received indicates that clinics and other practices are doing a good job in providing these services to their patients. However, it should also be noted that since this program serves the uninsured population, there may be some reluctance on the part of the respondents to answer honestly about their care for fear of losing the benefits. Moreover, the measures may not fully explain how the patient feels about the quality of care they received. In this regard, qualitative surveys may be more effective (Turner and Pol, 1995).

Although this analysis gives a good snapshot assessment about the satisfaction of women using the Nevada WHC program, there are a few limitations that must be introduced. First, some of the measures did not provide adequate variability in responses to fully assess levels of satisfaction. Some questions were merely “yes” or “no” but could be re-worded to increase variability and improve the validity of the responses. Also, the possibility of recall bias cannot be ignored. The survey was sent to patients who had used the services in the previous two years, so the recollection of some of the patients may be compromised. However, it is not uncommon to conduct surveys such as these given the importance of assuring that there is a measure of quality care in government funded programs. Certainly the number of subjects who responded to this survey strengthens many of the findings. One recommendation that was made to the program following this study was the need to provide a short satisfaction instrument within the physicians’ offices and clinics so that patients can provide feedback to the program.

There may also be some selection bias in this study. Although the survey attempted to provide a cross-section of women who received the services, a significant number of surveys were returned unanswered. This indicates a need to determine how transient nature of the population in Nevada affects the reliability of the responses. Tracking former Nevada residents to see if they continued to receive services in another state would be a helpful measure in addressing the success of the program. Also, it is possible that those who were less satisfied chose not to answer the survey. Previous studies have shown that those who are dissatisfied may be less likely to participate in a survey or have stopped to use the service. Since the program does not pay for treatment if detection of cancer is found, follow-up of those patients is necessary

to determine whether the patient’s level of satisfaction remains high.

Further study is needed regarding the continued care of women in the program. The finding that 30 percent of the patients indicated that they were not able to discuss other health care needs with the physicians or clinicians represents a missed opportunity for improving patient care and access. What is unclear is whether the physicians asked the patients if they had any other health issues, and many patients may not have volunteered information on their other health care needs. Given the large population growth and the limited number of services available, it is critical that quality improvement assessments be continued to measure the effectiveness and efficiency of this and similarly funded state programs. Of major interest would be questions regarding follow-up for patient care and how well patients were able to obtain care for issues unrelated to cervical cancer screening.

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