Identifying Barriers to Low Pap Smear Screening Rates:
East Arkansas Family Health Center
West Memphis, AR

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Introduction

According to World Health Organizations, approximately 13% of deaths are due to cancer [1]. Cervical cancer accounts for a small percentage of these deaths. The incidence of this cancer is slightly higher in Arkansas than the national incidence rate. For African Americans, Asians/Pacific Islanders, American Indians, and Hispanics, the incidence remains high [6]. The slow growing natural history of cervical cancer lends to screening and early detection in the precancerous state. Papanicolau smears are the gold standard for the detection of precancerous changes at the earliest stages, allowing for minimally invasive treatment. [3].

East Arkansas Family Health Center (EAFHC), a community health center (CHC) with Level III National Committee for Quality Assurance (NCQA) Patient-centered Medical Home certification, is located in West Memphis, Arkansas (Crittenden County). This CHC serves a population of 7,826 patients, and has satellite clinics in Poinsett, Mississippi and Phillips counties that serve additional patients. Crittenden County is one of the poorest counties in Arkansas, with 28% of the population below 100% federal poverty level (FPL). In this county alone, 49% of the population lives 200% below FPL, 54% are uninsured, and do not have access to comprehensive medical care [8]. According to the 2010 County Health Rankings of Arkansas, Crittenden, Mississippi, Poinsett, and Phillips counties rank 70, 72, 73, and 75 of 75 counties respectively as it relates to health outcomes, specifically in mortality rates [5]. Similarly, Arkansas Center for Health Statistics (1990 to 2004) show that Crittenden county's cervical cancer screening rates exceeded those of the state, yet the mortality rates were higher than state cancer mortality rates [4].

Mortality rates and incidence of cervical cancer can vary on the basis of socioeconomic status and urbanization levels [9]. A study conducted by in 2012 by Singh explored the difference in mortality and incidences of cervical cancer amongst rural communities when compared to urban areas. The results of the study suggest that there is a significant disparity in mortality rates in rural areas. Singh shows that in 1999-2007, women in completely rural areas exhibited a 20% higher cervical cancer mortality risk than those in non-rural areas. In addition, during 2000-2008, women in these same rural areas had 15% higher cervical cancer incidence rates when compared to their non-rural counter parts. Evidence that of all races/ ethnicities, black women were the most likely diagnosed with advanced stage cervical cancer and had the highest mortality rates. These disparities can be attributed to deprivation and low socioeconomic status as significantly important determinants of cervical cancer mortality, incidence, and patient survival [10-12].

Based on the large number of African American women and a small amount of other vulnerable races, we want to do a pilot study to explore the low cervical cancer screening rates in this clinic. The American Society for Colposcopy and Cervical Pathology (ASCCP) guidelines specify that women ages 21 to 65 should receive Pap screenings every three years. After age 30, women have a choice. They can continue with screenings every three years, or choose to have pap smears every five years if opting to have Human Papilloma Virus (HPV) cotesting [7]. EAFHC currently participates in Arkansas Department of Health Breast Care Program, which is an income based assistance program that allows all eligible female patients age forty and above to receive a free yearly mammogram, pelvic exam and Pap smear, and follow

ups if needed. Most women who have been diagnosed with cervical cancer have not had regular Pap smears or did not follow up from abnormal Pap results [9].

Methods

Electronic Data Collection from Uniform Data Systems (UDS), eClinical Works, BridgeIT

In collaboration with the Continuous Quality Improvement (CQI) director of the center, data was collected primarily from electronic medical records reporting systems. Numbers reflect all female patients age 21-65 seen at all EAFHC from March 1, 2012 to March 31, 2013. Patients having one or more Paps in that time period were compared with total number of women presenting to the clinic for appointments. Age was calculated on the basis of the end of date of service for the reporting period. Patients that have had hysterectomies were excluded from the data.

Key Informant Interviews

Interviews were conducted with providers and staff to better understand their perspectives and personal preferences on low Pap smear rates and how to improve overall rates. (*See Appendix for interviewees and questions asked*)

Results

Electronic data retrieval

Table 1.1. General statistics of EAFHC female patients from the last year
 This number reflects eligibility based upon age range ONLY, not income requirements.

Total # of patients	**7,827**
Total # of female patients	5,095
Total # of females ages 21-65	3,726
Total # of females enrolled in Breast Care	170
Total # of female patients eligible for Breast Care based on age*	2,530

Table 1.2. *Total number of patients based upon race and ethnicity. Highlighted rows signify most represented race/ethnicity*

	Patients by Race	Hispanic/Latino	Non-Hispanic/Latino	Unreported refused to report	TOTAL
1.	**Asian**	0	5	1	6
2.	**Native Hawaiian**	0	6	0	6
3.	**Other Pacific Islander**	19	4	0	23
4.	**Black / African American**	**10**	**4,547**	**14**	**4,571**
5.	**American Indian/Alaskan**	0	5	0	5
6.	**White**	**26**	**3,037**	**1**	**3, 064**
7.	**More than one race**	3	0	0	3
8.	**Unreported/refused to report**	121	23	5	149
	TOTAL PATIENTS (sum lines 1-8)	**179**	**7627**	**21**	**7827**

Table 1.3. *Insured /Uninsured Distribution Amongst Patients*

Insurance Source	Ages 0-19	Ages 20 and older
None/Uninsured	**160**	**3, 752**
Regular Medicaid	166	828
CHIP Medicaid	153	0
Medicare (Title XVIII)	**0**	**1,753**

Table 2.1. *Pap Smear screening rates by Community Health Centers in Arkansas. Data was taken from graph given at Patient Centered Medical Home meeting with CQI directors from Community Health Centers of Arkansas. Identification of center names were excluded for confidentiality.*
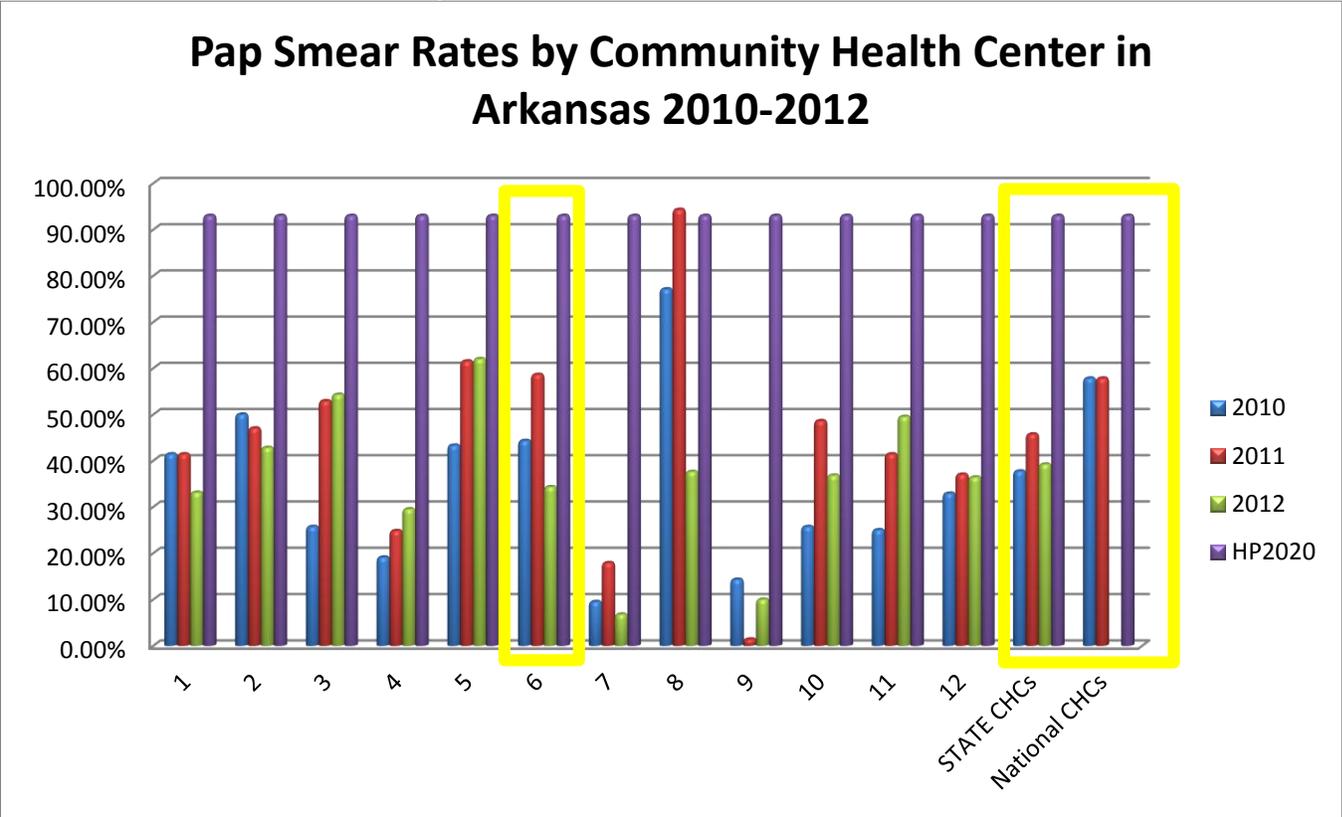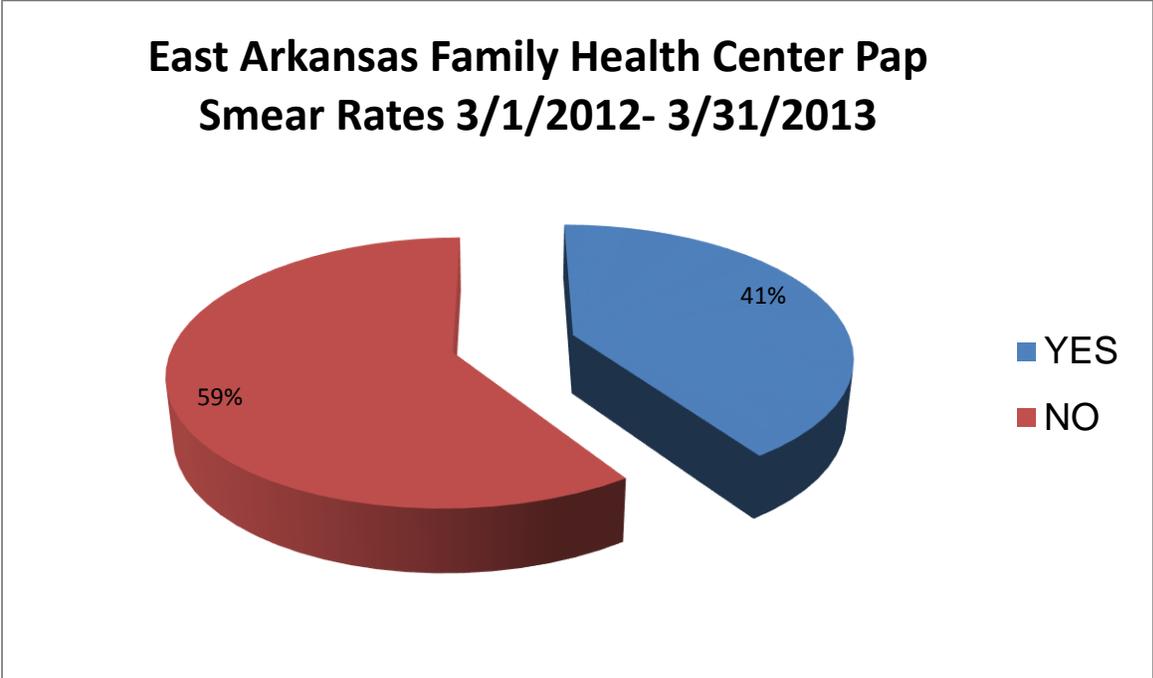
Table 2.2. EAFHC overall Pap Smear Screening Rates.

East Arkansas Family Health Center Pap Smear Rates 3/1/2012- 3/31/2013

- YES — 41%
- NO — 59%

Table 2.3 Pap smear screening rates by provider at EAFHC.

Pap %: East Arkansas Family Health Center

Provider	Pap %
1	53%
2	39%
3	36%
4	51%
5	45%
6	25%
7	5%
Overall @ EAFHC	41%
National Avg.	93%

Y-axis: % Paps 3/1/2012 to 3/31/2013

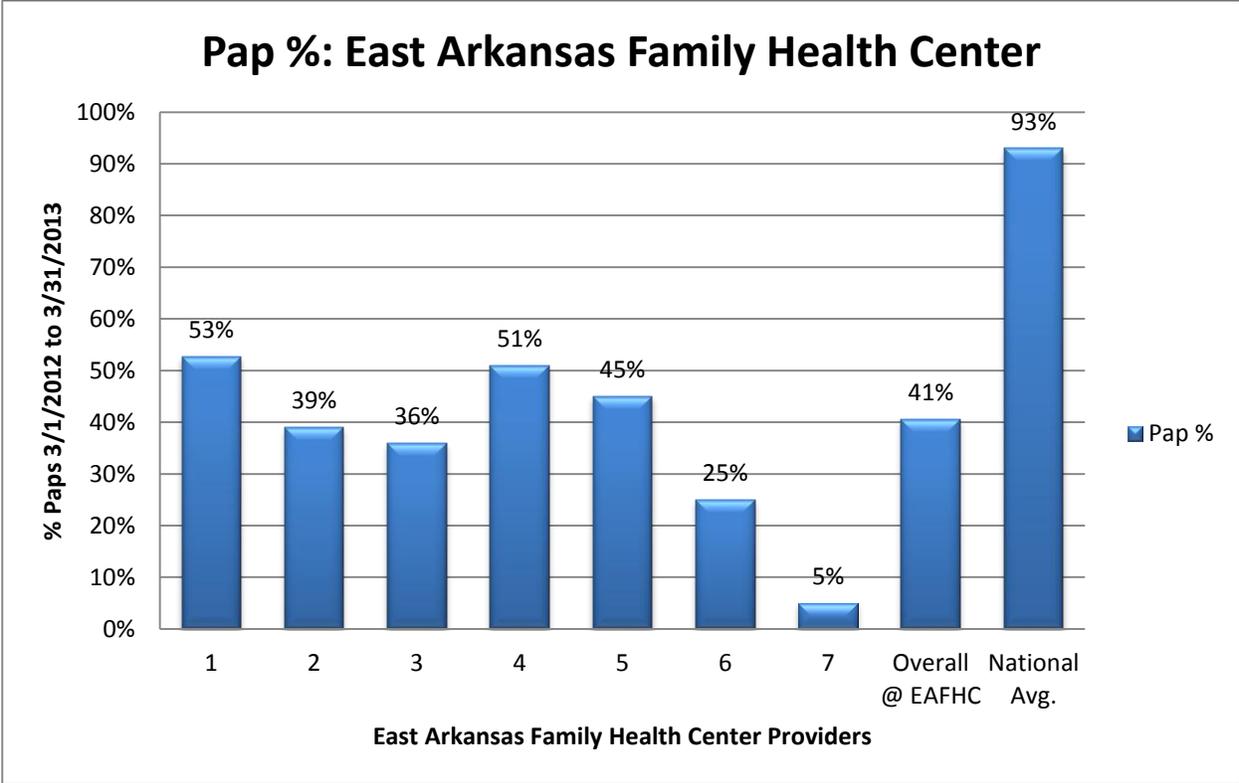X-axis: East Arkansas Family Health Center Providers

Table 2.4. Pap Smear rates by provider at EAFHC. Provider names were excluded for confidentiality.

Provider	Total Patient Count	Pap Screenings Performed	
		# of patients	Pap%
1	389	205	52.70%
2	346	135	39.02%
3	246	89	36.18%
4	78	40	51.28%
5	476	212	44.54%
6	324	81	25.00%
7	22	1	4.55%
TOTAL	**1,881**	**763**	**40.56%**

Discussion

In this study, we examined Pap smear screening rates at a single CHC. The Pap screening rate of 40.56% at EAFHC is much less than the 93% HP2020 Goal [2]. Including satellite screening rates, EAFHC ranks 6 out of 12 of all CHCs in Arkansas. Rates by provider vary from 5% to 53%, illustrating that all providers have low screening rates. Based on the low ratings, interviews were conducted with health care providers and staff. During interviews, it was evident that the lack of patient education information, financial instability, coding challenges, and staff-patient preparation and provisions for pap screenings contributed most to the site's screening rate insufficiencies.

Lack of patient education resources remain at the forefront of low Pap smear screenings and cervical cancer prevention at the site. Though it may not be a single determining factor to directly raise screening rates, it is essential that the information is available to patients. While EAFHC does participate in Arkansas Health Department's Breast Care Program, interviews revealed that many of the patients are not utilizing the program, simply by choice. Table 1.1 illustrates the number of female patients seen at EAFHC that fall within the age range indicated in the ASCCP guidelines for Pap smear screenings as well as the number of female patients eligible and currently enrolled in the Breast Care Program. The data suggests that of the 2, 530 patients possibly eligible to enroll in the program based on age, only 6.7% of these patients utilize this resource.

From the perspective of the interviewees, this low percentage is primarily due to lack of understand in the purpose of the Pap smear screenings in addition to failure to keep appointments and follow ups for abnormal screening results. EAFHC does encourage patient enrollment, and offers educational brochures on the services available through the program, however, there is a waiting list and limited funding. Because of this, many women are financially unable to receive pap screenings.

Along with lack of patient education and financial instability, staff-patient preparations and provisions for screenings also presented as an impediment. Interviewees discussed complications involving impromptu screenings during regular patient visits. In response to these findings, we would like to provide suggestions and strategies to increase Pap smear screenings rates and encourage further study that involves patient interaction and perspectives. (See chart on following page)

Ways to Improve Cervical Cancer Screening Rates

Short-Term	♦ Strengthen relationships with other organizations (churches, non- profit and private organizations, media) ♦ Make educational materials available at care center ♦ Peer chart reviews ♦ Patient reminders ♦ Staff training in performing Pap smear ♦ Encourage all providers to perform screenings ♦ Check records to see who is not up to date on Paps and call them ♦ Educate patients on procedure during room preparation ♦ Monitor coding input ♦ Continue to encourage Breast Care enrollment ♦ Reminder mail and phone calls
Medium-Term	♦ Hire more staff to focus on tracking and contacting patients ♦ Place providers on 100% chart review during orientation periods ♦ Provider and patient incentives ♦ Monitor data by age group and review guidelines for each
Long-term	♦ Encourage patient access to health information ♦ Expand office hours ♦ Exploit Pap flow sheet to tract normal/abnormal Paps ♦ Address provider resistance to performing Paps ♦ Expand in office follow up services for abnormal screening results (i.e., colposcopy)

Source: National Academy for State Health Policy (webinar), [1], [13]

Limitations

Although this study examined low Pap smear screening rates using electronic reporting data, there were several limitations to our study. Data collected represented information from a specific time intervals, which may not accurately reflect data over longer or shorter time intervals. Interviews were limited to provider and staff perspectives only. The study could have been more extensive to include patient perspectives utilizing a questionnaire. Also, patient education interventions with pre and post evaluations could have been implemented with more time. Finally, we could have examined statistics and interventions implemented at other rural community health sites.

Appendix

Interviewees:

Chief Executive Officer
Continuous Quality Improvement Director
Chief Operating Officer
Advanced Nurse Practioners (3)
Physician's Assistant (1)
Physicians (4)
Nursing Staff

Questions:

1. What do you feel is the biggest barrier to Pap Smears?
2. What has been done to resolve this issue thus far?
3. How do you think this issue can be further alleviated?

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