An Improvement to Cervical Cancer Screening at the Legacy Community Health Services Clinic-Montrose Location- Developing a Comprehensive Approach

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Abstract
I am observing cervical cancer screening at the Legacy Community Health Services Center-Montrose Location.
I will be observing the following:

1. From looking at the PCMH report, how many women at Legacy are of ages 21-65 and visited the clinic during April 14th-June 16th?
2. Of the women who visited within the 2 month time span, how many received pap smears?
3. From the PCMH report, how many of the providers within the clinic are meeting the 93% percentage rate? Based upon CDC Healthy People 2020
4. From looking at a sample of patients' charts, how many women who had abnormal pap smears were referred to get further testing etc. on 04/14 and three years prior?

These questions will be answered by using the database Centricity and generating reports. Many interventions will be provided to help improve the process of cervical screening.

Keywords: cervical cancer screening; pap smear; Legacy; Montrose; ages 21-65; PCMH

Introduction

Legacy Community Health Services Center is a Federally Qualified Health Center (FQHC), which sees majority of patients who are either uninsured or underinsured. The Montrose location is located in a predominant LBGTQ community and most of the patients are gay males. The clinic is well known for its management and care of HIV/AIDS. However, since Legacy is now a patient centered medical home facility (PCMH), more effort should be put into preventative care and overall wellness of each patient. One approach to improve prevention is to make sure that the cancer screening is adequate.

When I began my externship at Legacy, I met a fellow from MD Anderson who was interested in researching the preventative cancer screening at Legacy. I am very interested in preventative medicine and after speaking with him, I decided to observe the current model that Legacy uses to screen for cancer. I narrowed my focus to cervical cancer screening since it is the easiest gynecologic cancer to prevent. A primary care provider performs the test, the results are sent off to the lab, and no special equipment is needed. This makes pap smears an easy preventative test to measure at a healthcare clinic such as Legacy; no special scheduling is needed and the patients can get the exam while visiting the doctor for their appointment. Since it does not take much time to complete the exam, and the exam is accurate to predict and prevent cervical cancer, I believe that all females who are between the ages of 21-65, who meet the necessary requirements, which will be detailed below, should be offered pap smears during their clinic visit at Legacy.

Background

Cervical cancer is the easiest gynecologic cancer to prevent, with regular screening tests such as pap smears and follow-up. Precancerous lesions can be treated before developing into invasive disease. According to the American Cancer Society, between 1955 and 1992, cervical cancer decreased by more than 70% due to the increased amounts of pap smears performed. However, in 2014 a predicted 4,020 women will still die from cervical cancer (cancer.org). Additionally, based on the FTCA (Federal Tort Claims Act), in the past 10 years, majority (58%) of incidents involving cervical cancer has involved a failure to diagnose or there was a delay in diagnosis (hrsa.gov). Since cervical cancer is so easy to prevent, health clinics and providers should make sure that women who fit the guidelines for the US Preventative Task Force are receiving the proper screening. The guidelines are as follows: *"The USPSTF recommends screening for cervical cancer in women ages 21 to 65 years with cytology (Pap smear) every 3 years or, for women ages 30 to 65 years who want to lengthen the screening interval, screening with a combination of cytology and human papillomavirus (HPV) testing every 5 years."* According to cancer.org, "more systematic screening for cancer is a major way to reduce a patients' risk for getting cancer". The cervical cancer survival by stage of cancer has a worse prognosis as the cancer becomes more advanced (Appendix A). Cervical cancer usually becomes advanced when patients are not receiving adequate pap smears every three years and not receiving the appropriate follow-up care. When looking at a map of cervical cancer screening according to each state, in 2010, Texas had one of the lowest screening rates 77.5-79.8 (Appendix A). I decided to observe the cervical screening rates at Legacy Community Health Services Center by looking at their current protocols and database reports for cervical cancer

screening. I also plan to provide information on how to improve their screening efforts and help to improve their cervical cancer percentages overall.

Methodology

In order to assess the cervical cancer screening at Legacy, I will be using the Centricity electronic medical records system. The Centricity EMR system has been used by Legacy since 2012. Through the system, many reports are generated to observe quality control of the clinic. In particular, I will be observing the Patient Center Medical Home (PCMH) and the compliance reports.

The first report I observed divides cervical cancer screening rates up by provider. I chose to look at the dates 04/16/2014-6/16/2014, and I only selected three departments to observe: adult medicine, pediatrics, obstetrics and gynecology. The report splits the percentages into numerator and denominator which can be defined as follows:

- *Numerator: Number of female patients 24-64 years of age receiving one or more Pap tests during the measurement year or during the two years prior to the measurement year, among those women included in the denominator*
- *Denominator (Universe): Number of female patients 24-64 years of age as of December 31 of the measurement year who were seen for a medical encounter at least once during the measurement year and were first seen by the grantee before their 65th birthday*

In order to identify the females who visited the clinic, I calculated all the denominators for the departments of adult medicine, pediatrics, obstetrics and gynecology. In order to assess the females who received the pap smears, I calculated the numerators. This is how I got a cervical cancer screening percentage.

In order to assess follow-up care for the abnormal pap smears, I reviewed the compliance reports in the Centricity EMR system. The compliance report sorts women who received pap smears by their insurance provider. The report consists of active female patients between the ages of 21-64 who have had pap smears within the past three years of the report date April 14, 2014. The report has the results of each pap smear. I randomly selected 20 females off the report who had abnormal pap smears and I completed chart review for them. I observed the date the pap smear was performed, when the results came back from the lab, when the patient was notified of the results, when the follow-up appointment was made for colposcopy at the dysplasia clinic and when the results were received from it.

After I analyzed the results, I created interventions. The method I used to create the recommendations is the daily workflow chart of Legacy clinic. There was not a protocol that I could find that the clinic has for cervical cancer screening, so I created one and it is listed below in the recommendations section.

The timeline that I followed is as follows:

Week 1 and 2-, I met with my faculty advisor and with the CMO to decide on a project that would help Legacy as a clinic to improve. Once I decided on cancer screening, I used this time to figure out which cancer I would target. I also met with the fellow from MD Anderson so that I could learn more about cancer screening in general.

Week 3-, I used this week to research Centricity and learn how to generate reports. I met with the IT specialists at the clinic so that they could teach me how to use the reports and do search inquiries. I also met with my advisor and the fellow from MD Anderson.

Week 4-, I spent this week continuing to research Centricity and I started to finalize the reports that I decided to focus on. I met with my faculty advisor and the fellow from MD Anderson.

Week 5-, I used this week to finalize all the results and I started to type the beginning of my paper.

Week 6-, I used this week to create the intervention that I proposed to the clinic and I met with the fellow from MD Anderson to discuss the protocol that I created. I finished my paper as well.

Results

The number of women who visited the clinic on 04/14/2014-06/16/2014 between the ages of 21-65 is 6,960. The number of females who received a pap smear during those visits or within the previous three years is 4,644. The total amount of cervical screening during this period for the clinic in the departments of adult medicine, pediatrics, obstetrics and gynecology is 67% (Appendix C).

I also explored each provider percentages individually. None of the 22 providers except for one OB/GYN and two pediatrics providers actually met the 93%. The OB/GYN saw 1,221 patients during that time frame. Each of the pediatricians only saw one patient within the age frame (Appendix C).

Of the twenty abnormal charts that I reviewed, only four of the females had proper follow-up care, which consisted of the results being inputted into the Centricity system from the dysplasia clinic, or a follow-up pap smear was performed. Of the twenty patients, all of their lab results from the initial pap smear were reported to Centricity within a week. Only sixteen of the

patients were notified of their abnormal result. Thirteen of the patients had a scheduled appointment in the system for the dysplasia clinic. Two of the patients were noncompliant and missed the appointment. One of the patients was pregnant and did not receive any other follow-up care for her abnormal pap smear. (Appendix D)

Discussion

According to Healthy People 2020, cervical cancer prevention should be about 93%. The clinic percentage was 67%, which is much lower than the recommendation. The significant lower percentage could be due to the overall nature of the clinic. Since the clinic is used mainly for acute care, most patients come in to get help with a current issue that they are having and are not concerned about anything else. In addition, it was very surprising to see the individual rates so low. Out of the twenty-two providers, only three of actually achieved the 93%. Since some of the providers are either endocrinologist or nephrologist, this could explain some of the low percentages. These physicians usually provide care for patients who have issues related to their specialty, however, it should not be too much of a hassle for the front desk to survey patients as they come in to see the physician and schedule appropriate preventative screenings prior to them seeing the physician.

When observing the results of the abnormal pap smears, the sample size is a limitation. Since chart review was the method to view follow-ups, only 20 charts were completed which is not enough to assess the follow-up care overall of the pap smears. The results of the pap smears always were reported to Centricity, which is great. However, it was not always documented into the system that patients were notified of the result. Most of the time, patients were notified within two weeks of the result, other times, patients would not be notified until a month later.

Most of the dysplasia clinic appointments were documented into centricity but not all of them. A better system needs to be implemented to ensure organized coordination of care across providers. Another inconsistency that I noted is that the physicians' results of the pap smears are not standardized in the Centricity system. For example, some physicians list abnormal when the results come back from LabCorp while others type abnormal epithelial cells etc. There are many different ways a provider can list that the pap smear is abnormal. However, it needs to be standardized. Additionally, once a patient visited the dysplasia clinic, their results were not always reported to Legacy. This is a big issue since most females who die of cervical cancer is due to a failure or delay to diagnose the disease properly. Not having results in the system definitely delays the process of being treated.

Other limitations that I noticed is that Legacy started using Centricity in 2012, so for the patients who received a pap smears prior to or in 2012, not all of the information may be documented into the system. In addition, I observed the dates 04/14-06/16/2014; it is possible that during other times of the year, more or less pap smears are performed.

I think further research needs to be conducted to study this issue in more detail. The quality control department should research these reports for longer periods to improve cervical cancer screening at Legacy. I spoke with the person over quality control and they are already working on efforts to research and improve cancer screening in general at Legacy.

Recommendations

The recommendations that I have are to introduce interventions at many levels to help improve cervical cancer screening at the Legacy clinic.

<u>Before the visit</u>

When a patient is called to be reminded of their upcoming visit, the caller should have the protocols tab up and remind the patient to make appointments for cervical cancer screening with either a provider or the OB/GYN; if possible, the caller should go ahead and schedule the appointment. Training should be provided to calling center staff, front desk etc. to teach about the protocols tab and what each prompt means.

During the pre-clinic reviews each week within a team, providers should add flags to the females in which pap smears are needed, from looking at the protocol tab. This flag will pop up when the patient comes to the clinic for a visit.

Modify the adult history form: Bold the cervical cancer screening, remind providers during meetings, not to overlook this section when seeing the patients for the first time; make sure all providers are using the standard form created for Legacy for primary visit; if providers would like to create their own forms, make sure they are approved by administrators to ensure that none of the cervical screening information is left off.

<u>During the visit</u>

- <u>Front Desk</u>

Keep slips of paper at the desk for each patient based off protocols tab, and fill them in as the patient checks in and give to patient for MA (Appendix B). Go ahead and schedule appointments if they are due now; if patient is there for H&P, the exam can be done during the current visit, if not put the date on the slip for the patient to remember their future appointments.

- <u>MA</u>

If the slip reads that the patient is due for a pap smear, go ahead and have patient to put on gown so the exam can be performed once provider enters the room; add flags for providers if cancer

screening is needed for the patient so the provider can remind the patient to schedule an appointment or go ahead and perform exam if there is time to do so.

- Provider

Use the information that is flagged to the patient chart or the information from the pre-clinic review to review the cancer screening needed and include in patients' summary to schedule appointments if patient hasn't done so already. Read all flags that are associated with the patient.

- Exam Rooms

Posters/ printouts need to be on the wall/ back of the door to remind both patients and providers to keep track of cervical cancer screening and to make sure it is a part of every female visit between the ages of 21-65.

After the visit

Providers need to create flags for follow-up to abnormal pap smears so they will be reminded to follow-up on them to ensure that results are being received from dysplasia clinic and so that the patient is notified.

Quality control committee/ administrators/ peer review can print out the PCMH reports quarterly and pass them out to the providers as a reminder to schedule patients for preventative care.

During administrator meetings on quality improvements, the PCMH and compliance reports in Centricity should be discussed regularly and brainstorming should be done to create a way to improve the efforts that are specific to Legacy.

For all letters that are sent out to patients, regardless of the reason for the letter, there needs to be a small preventative cancer-screening box that includes the needed screening examinations (Appendix B)

(Long-term goal):

Hire possibly 2 people who are responsible for care coordination and referral follow-up. These positions would include chart maintenance and make sure everything is being documented properly. These people will report to administrators and notify them of possible problem areas for improvement.

Overall Improvement of clinic flow:

There needs to be more clinic organization and communication. There should be frequent quarterly clinic wide meetings where workflow should be discussed (everything that is done from when a patient walks into the door until they leave). In addition, every 2 to 3 months each department such as family medicine, infectious diseases teams, etc. should meet separately to coordinate care and discuss problem areas.

For abnormal results-

Referral committee need to make sure that results are received; when they are not, they need to follow-up with the dysplasia clinic; the referral committee needs to perform quality checks for the referrals that they are managing; they need spreadsheets for each referral they are responsible for and check back to make sure results are received and that the chart is documented properly.

For each abnormal result, providers should create flags for the patients that read "pending results for follow-up" therefore each time the chart is opened, even if a different provider sees the patient, they will know to follow-up with referral to see the status of the results.

Conclusion

Since cervical cancer screening is easy to perform, primary care centers such as Legacy should offer pap smears to all females age 21-65 excluding the females who have full hysterectomies. Since cervical cancer is the easiest gynecologic cancer to prevent and is a very low cost procedure, this exam should be completed more frequently at Legacy; for the exams that are performed, follow-up care needs to be implemented until the results are charted into the system from the dysplasia clinic. Using Centricity to observe pap smears and follow-up care has shown that cervical cancer screening has room for improvement at Legacy. Furthermore, more education and training to the staff of Legacy will help improve the screening rates. If Legacy adopts a more comprehensive model to provide cervical cancer screening, more patients will be protected from cervical cancer and the screening percentages will improve drastically.

Appendix A

Cervical Cancer Survival by Stage

Stage	5-year survival rate
0	93%
IA	93%
IB	80%
IIA	63%
IIB	58%
IIIA	35%
IIIB	32%
IVA	16%
IVB	15%

Source: National Cancer Database

U.S. Cervical Cancer Screening Rates, 2010

Data source: Behavioral Risk Factor Surveillance System

Appendix B

Cancer Screening Preventative Measures

_____ Mammography

_____Pap Smear

_____Colonoscopy, FIT, FOBT

Appendix C

Female patients ages 21-65 during 04/14-06/16,who was seen by physician, nurse practitioner, physician assistant, or registered nurses in adult medicine, pediatrics, or OB

ProviderName	Denominator	Numerato	Total Percentage
Ansari-Endo/Nephro	11	7	63.6
Asghar- Endo/ Nephro	10	6	60
Folb-Endo/Nephro	5	3	60
Graham-NP	689	470	68.2
Hsu	11	8	72.7
Klarberg	316	156	49.4
Maston-Adolescents	2	1	50
Nemecek	456	250	54.8
Palm	247	146	59.1
Patel	665	346	52
Robbins-Endo/nephro	1	0	0
Ruppe-endo nephro	3	0	0
Saltzman-RN triage	13	11	84.6
Sarsam	319	205	64.3
Schrader- 3hrs once a week	17	10	58.8
Shepard	1556	1102	70.8
Simmons	248	68	27.4
Vanek	842	451	53.6
OB			OB/GYN
Barber	1221	1143	93.6
Edwards	326	259	79.4
Peds			Pediatrics
Feldmann	1	1	100
Lehmann	1	1	100
	6960	4644	67% which is below the amt

Providers total 22

Providers below the amt reccommended 19

Only 3 providers who meet the guidelines

Appendix D

Date test was done	Results came back	Patient Notified/referral made	Patient scheduled for dysplasia clinic	Followup
10/10/2012	N/A	10/10/2012	1/3/2013	no results
7/11/2013	7/11/2013	7/18/2013; 07/25/2013	Patient scheduled her own appt.	10/04/2013- patient appt; mentioned that polyps were removed; no results in system
1/6/2014	1/6/2014	1/29/2014	2/18/2014	05/12-pap smear
3/13/2012	3/13/2012	N/A	N/A	N/A-could be due to system change
1/3/2012	1/3/2012	N/A	N/A	N/A- could be due to change in 2012
3/17/2014	3/17/2014	3/20/2014	4/25/2014	N/A
11/21/2013	11/22/2013	12/13/2014-patient notified	12/30/2014	N/A
8/2/2013	N/A	8/10/2013	11/19/2013	N/A
10/2/2012	10/2/2012	11/16/2012-patient came in for results	N/A	N/A
11/21/2013	11/21/2013	12/5/2014	5/6/2014	N/A
3/22/2012	3/22/2012	N/A	N/A	N/A
2/20/2014	2/20/2014	N/A	N/A	N/A-patient was pregnant
3/20/2013	N/A	4/4/2013	6/17/2013	06/19-results received
7/13/2013	N/A	6/2/2014	06/04/2014 polyp removal; 06/10 referred to dysplasia clinic	N/A
5/31/2013	5/31/2013	6/5/2013	7/17/2013	08/17 results received
6/11/2013	N/A	6/13/2013	8/19/2013	noncompliant patient
9/23/2013	9/23/2013	10/10/2013	1/27/2014	N/A
5/9/2013	5/9/2013	5/13/2013	patient was scheduled twice and missed the appt	noncompliant patient

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