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Expansion of a Comprehensive and Standardized Well-Woman Exam Program in a University-Based Clinic

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EXPANSION OF A COMPREHENSIVE AND STANDARDIZED WELL-WOMAN EXAM
PROGRAM IN A UNIVERSITY-BASED CLINIC

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Abstract

Background. Well-Woman exams are an opportunity for women to receive focused screening, counseling, education, and care from a healthcare provider. Studies have found that 68% of women received well-woman exams between 2010 and 2016. During COVID-19 well-woman exams decreased by 80% in the United States. Standardized, comprehensive exams facilitate identification of the need for lifesaving care. **Objective.** The purpose of this quality improvement project was to expand a comprehensive and standardized well-woman exam program in a university-based clinic. **Methods.** Processes were implemented to promote well-woman exams, patient comfort measures, and completion of an evidence-based standardized comprehensive exam with appropriate follow-up. Following project implementation patients are now screened when calling the clinic to schedule an appointment. If appropriate, a well-woman exam is scheduled with a provider. During the appointment, the provider uses patient comfort measures and the newly developed Woman Preventive Services Initiative chart to complete the exam to ensure comprehensive components are included. The laboratory results of the exam are given to the patient via telephone call and, if needed, a referral is also made. **Results.** The number of well-woman exams increased by 900% from January 31, 2021 to April 16, 2021. The key elements that increased women's comfort with well-woman exams including providers introducing themselves and the chaperone, as well as verbal checks of the patient during the pelvic exam, were incorporated in 94.44% of the exams. Weeks nine and ten showed 95.45% completion of the WPSI components. Of the patients who responded to a post-exam survey, 96% of the patients reported a positive experience. **Implications.** Expansion of standardized well-woman care facilitated comprehensive evidence-based care. Standardized electronic documentation tools designed and employed should maintain the consistency of the exam and

assist in identification of need for follow-up testing and care. New processes reversed the decline of well-woman exams completed during the 2019-2020 COVID-19 pandemic at the university-based clinic and the increase should be maintained through the patient satisfaction achieved.

Keywords: Well-Woman exam, cervical cancer screening, pap smear, comprehensiveness, standardization

Expansion of a Comprehensive and Standardized Well-Woman Exam Program in a University-Based Clinic

Well-Woman exams are an opportunity for women to receive focused screening, counseling, education, and care from a medical provider. These exams are performed to promote and empower women to take part in their own reproductive and general health. The well-woman exam includes a thorough history and physical, breast exam, pelvic exam, and a variety of evidence-based screenings and tests (Rakel & Rakel, 2016). Primary categories covered during the clinical exam encompass screening for high blood pressure, depression, obesity, intimate partner violence, and immunizations. Specific age-appropriate tests may include human immunodeficiency virus, human papillomavirus, and cervical cancer. Without the standardization of exam screenings patients are denied preventive care that is evidence-based and has the potential to save life.

A university-based health clinic sees well-woman exam candidates weekly. The clinic has daily appointment availability with multiple providers for well-woman exams. However, before this project only four (1.04%) exams performed between January 31, 2020 and April 16, 2020 were coded as a well-woman exam.

Statement of the Problem

The United States healthcare system is accustomed to reactive medicine (Conry & Brown, 2015). Preventive medicine's rightful place is at the forefront of health care and a university-based healthcare clinic can play a major role in this initiative. A university-based health clinic encompasses a special population of patients becoming responsible for their own health care for the first time. Patients at this entry level of health care can be redirected towards prevention and once learned, can continue these behaviors after leaving the university. Delivery

of preventive services in this population has the potential to decrease future morbidity and mortality (Ozer et al., 2012). However, during the clinic assessment it was found that six (33%) of the Women's Preventive Services Initiative (WPSI) screenings were missing from the four well-woman exams completed between January 31, 2020 and April 16, 2020. The follow-up procedure for abnormal Papanicolaou smear results after a well-woman exam was also inconsistent between providers. This finding put the patient in danger of not receiving needed follow-up from an obstetrics and gynecology (OB/GYN) provider.

Background and Significance

In 2020 during the stay-at-home order due to Coronavirus disease (COVID-19) there was an 80% decrease in cervical cancer screening (Miller et al., 2021). Miller et al. (2021) notes that while the examination rates are slowly returning special attention should be brought forward to increase these rates. Current recommendations state that there can be some delay in cervical cancer screenings; however, as COVID-19 continues to alter people's everyday life, screening needs to be continued.

The well-woman exam can be performed in a primary care setting such as a university-based clinic. The Advanced Practice Registered Nurse (APRN) may provide the well-woman exam for the patients they serve which in turn improves health outcomes and increases access to care (Newhouse et al., 2011). According to Newhouse, et al. (2011), APRNs are often more efficient at providing the patient education and following the guidelines that could prevent harm to the patient. Using patient-centered care, APRNs are there to guide the patient through their health and wellness goals while also providing evidence-based interventions. Without recommendation from a medical provider, immunizations, health screenings, and patient education often go uncompleted (Liao et al., 2017). Research shows that preventive care not only

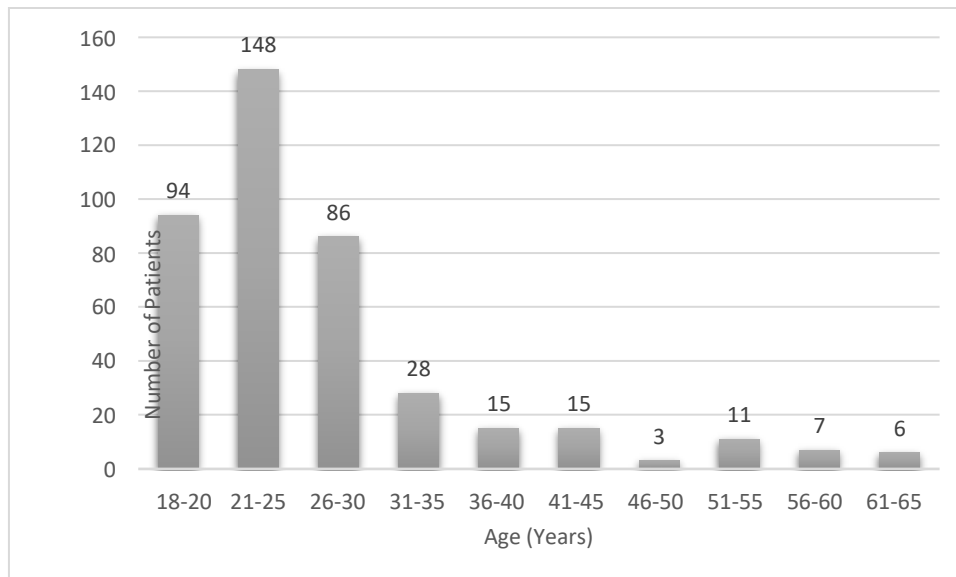
saves billions in healthcare costs; it also potentially extends patient life-years (Maciosek et al., 2010). The health screening and education the patient receives during the well-woman exam allows for early intervention that can then prevent life-altering patient harm.

Assessment

The university-based health clinic saw an average of 28 female patients per week in 2019. The female patient ages ranged from 16 through 74 years old. The greatest number of female patients in 2019 were in the (21–25) year-old age group (n=148, 35.6%). The chief requests of the female patients include verification of sexually transmitted infections, an annual well-woman exam, and investigation of gynecological complaints. As seen in Figure 1, the trend for the majority of female patients seen in 2020 continued to be in the (21-25) year-old age group.

Figure 1

Number of Female Patients Seen Between January 30, 2020 Through April 16, 2020



The clinic is in a small building easily accessed by students and employees. The four rooms available for exams are used by multiple specialties such as physical therapy, mental

health, and dental providers. Two of the rooms are windowless and equipped with exam tables that allow for the lithotomy position used during a well-woman exam. Each room contains hardcopy education, a sound machine for patient privacy, and supplies needed for the well-woman exam. The medical assistants are responsible for stocking and ordering the supplies needed. These factors influence and promote an efficient provider workflow for the clinic.

Readiness for Change

The clinic's readiness for change is evident with the receptivity of the medical providers and staff to quality improvement projects (Agency for Healthcare Research and Quality [AHRQ], 2013). The clinic is experienced in quality improvement projects as new doctoral students are mentored in the clinic yearly. The clinic's leadership and student's project mentor were readily available during clinic hours to address any project components. The clinic staff practice meets weekly to discuss upcoming events or changes allowing for continuous communication between all members. In addition, the clinic has an online communication program that allows for an easy exchange of information. There is organizational and financial stability ensuring there will be minimal distractions from the project. Lastly, there were no other quality improvement projects being conducted at the time of this project.

Project Identification

Purpose

The purpose of this quality improvement project was to expand a comprehensive and standardized well-woman exam program in a university-based clinic as outlined in Table 1. The project's implementation was important because a wider range of patient education can take place during a comprehensive well-woman exam; preventive medicine, when used, potentially extend patient life-years; and provider recommendations increase the provision and use of

preventive medicine (Maciosek et al., 2010). The goal of his project is to standardize the comprehensive well-woman exam and increase the well-womanexam rates from 1.04% of total female visits to 5% of total female visits by the end of the 10- week quality improvement project.

Goals and Anticipated Outcomes

Short-term Outcome:

A well-woman exam program that is comprehensive and standardized is expanded in a university-based clinic.

Long-term Outcome:

A university-based health clinic achieves an increase in well-woman exam rates.

Summary and Strength of the Evidence

The well-woman exam contains multiple components that have to be reviewed in their entirety to assure that the patient will receive comprehensive standardized care. The WPSI guidelines which incorporate the multiple components of the well-woman exam were fully implemented in this quality improvement project.

WPSI Guidelines

In 2016 the American College of Obstetricians and Gynecologist (ACOG) launched a women's health initiative called the Women's Preventive Services Initiative (WPSI, 2020). This initiative began as a cooperative agreement with the United States Department of Health and Human Services to create a comprehensive set of preventive services that women would receive without a co-payment, co-insurance, or deductible (WPSI, 2020). ACOG assembled a coalition of nationally recognized professional organizations including the American Academy of Family Physicians (AAFP), American College of Physicians (ACP), and National Association of Nurse Practitioners in Women's Health (NPWH) to develop, review, and update recommendations for

Table 1*Project Goals, Objectives, and Aims*

Goals	Objectives	Aims
1. Provide well-woman exam education to 100% of the medical providers.	Design and implement a class for the providers that reviews and discusses the WPSI recommended guidelines and interventions.	100% of the providers participate in the review and discussion of recommended guidelines and interventions for well-woman exams by January 31, 2021.
2. Discuss evidence and processes that increase women's comfort with providers.	Providers will introduce themselves and the chaperone, explain the exam process before the patient changes clothes, and ask the patient at least once during the exam how she is tolerating the procedure.	100% of the providers will incorporate the key elements that increase women's comfort with well-woman exams by January 31, 2021.
3. Providers will complete an age-appropriate comprehensive well-woman exam according to the WSPI well-woman chart. Providers will follow abnormal pap smear follow-up protocol to ensure results are communicated with patients.	Implement an evidence-based standardized set of screenings that provides a comprehensive well-woman exam in a university-based clinic setting. Design and implement a standardized follow-up protocol for providers to use when discussing pap smear results with patients.	80% of the patients will receive all WSPI age-appropriate screening components during the well-woman exam from January 31, 2021 through April 16, 2021. The percentage of compliance will be tracked weekly. 80% of providers will follow the pap smear results protocol.
4. Well-Woman exams will be properly coded and billed for reimbursement.	The provider will select the proper code and the health clinic will bill the patient's insurance for the well-woman exam provided.	80% of the well-woman exams will be properly coded and billed for reimbursement from January 31, 2021 to April 16, 2021.
5. Patient feedback will be collected on 25% of the well-woman exams completed.	Design and implement a survey to collect patient feedback on well-woman exams.	Patient feedback on the experience of the well-woman exam will be positive based on responses from 25% of the patients whose well-woman exams were performed from January 31, 2021 to April 16, 2021.
6. Increase the number of patients receiving well-woman exams.	Implement standardized screening questions for the medical assistants to use during gynecological patient scheduling. Implement monthly report call list for newly eligible well-woman exam.	Well-Woman exams will be increased from the 1.7% well-woman exams performed from the baseline of January 31, 2020 to April 16, 2020. 100% of the patients that call to schedule a gynecological appointment will be asked the standardized screening questions by March 31, 2021. 100% of eligible patients will be called to offer a well-woman exam.

women's preventive healthcare services (WPSI, 2020). After a rigorous systematic review of the evidence regarding each topic related to the well-woman exam the essential components were agreed upon by the coalition.

Categories of essential components within the WPSI chart include general health, infectious disease, and cancer. The general health category includes health topics such as depression, anxiety, diet, smoking, and contraception counseling. The infectious disease category includes screening for gonorrhea, chlamydia, human immunodeficiency virus, and immunizations. The category of cancer screening to be performed include cervical, breast, and colorectal cancer screenings, as indicated. The three categories of general health, infectious disease, and cancer screenings are separated further into age ranges that promote age-appropriate screening.

Therapeutic Environment

There is little research providing guidance to achieve a therapeutic environment during a well-woman exam. The literature found regarding appropriate environmental elements focused on the preferred or perceived well-woman environment for victims of abuse and assault. However, important points from the literature included the medical provider being mindful of the patient experience (Ackerson, 2012) and the possible hesitancy of the patient to disclose all past history. Therefore, everything from word choice to timing of exam should be taken into consideration (Ackerson, 2012). A patient's first impression of a well-woman exam is vital for future preventive visits.

Expected Exam Components During COVID-19

During the COVID-19 pandemic face-to-face exams were not taking place. Providers used telemedicine for acute visits to reduce transmission of the COVID-19 virus. Once the clinic

opened the doors for face-to-face visits, the face-to-face exams were scheduled by appointment only. The patients had to complete an online screen of current health status and COVID-19 risk factors prior to entering the building, a process which delayed appointment times. Cohen (2020) published expected components of a well-woman exam during the COVID-19 pandemic. Cohen (2020) stressed that age and patient history are major factors to consider when the provider is deciding which components are to be included during the exam. Components that improved overall care to the patient during the COVID-19 pandemic recommended by Cohen (2020) included breast cancer screening and cervical cancer screening. Breast cancer screening, as an example, could safely be delayed however new breast complaints may be addressed via telemedicine. If the provider felt the complaint warranted an in-person visit, the clinic would help the patient schedule an exam with the clinic. Cervical cancer screening, when appropriate, followed the ACOG (2021) and United States Preventive Services Task Force (USPSTF) guidelines (Curry et al., 2018). However, diagnostic in some instances may be delayed up to 6 to 12 months (American Society for Colposcopy and Cervical Pathology, 2020). The American Society for Colposcopy and Cervical Pathology (ASCCP) recommends that if the sample is unsatisfactory to repeat the test in (3-4) months (Perkins et al., 2020). Other COVID-19 well-woman exam considerations included using HPV self-swabs as a screening methodology. While typically a more expensive option the goal was for the women to continue to have access to women's health services. A study found that women were almost twice as likely to complete an at-home HPV test versus the traditional HPV testing in a clinic (Winer et al., 2019). These home tests were also almost twice as likely to identify patients with cervical intraepithelial neoplasia 2+ (Winer et al., 2019).

Prevention of unintended pregnancies should be discussed with the patient. Specifically,

long-acting reversible contraception should be considered for unintended pregnancy prevention due to limited appointment availability (Cohen et al., 2020). Special emphasis on decreasing barriers to hormonal contraception should be made including adequate refills for the patient and use of pharmacist-prescribed contraception where available. ASCCP (Perkins et al., 2019) recommends abortion services continue during the pandemic, including surgical termination as this is an essential healthcare service. Preconception care should continue to be done in a patient-centered manner and may be performed via telemedicine if needed (Cohen et al., 2020). Sexual health during the pandemic should continue to be prioritized for patients with sexually transmitted infection symptoms (Cohen et al., 2020). Self-swabs for sexually transmitted infections and expedited partner therapy should continue to be offered to increase access to care (Cohen et al., 2020).

Considerations of safety and mental health should be employed in the examination of intimate partner violence, depression, and anxiety using validated questionnaires (Cohen et al., 2020). During the screening processes the medical provider should highlight the patient's risk factors that increase or decrease the likelihood of the disease process being found (Cohen et al., 2020). For example, if a patient reports during their sexual history multiple sexual partners within the last 12 months there is an increased risk of contracting a sexually transmitted infection.

Standardized Follow-up Processes

The ASCCP publishes guidelines on the frequency of a follow-up exam after an abnormal pap smear (Perkins et al., 2020). The results and risk factors dictate the frequency of the screening. The potential for disease progression should be discussed with the patient during the follow-up discussion. For example, Ford et al. (2020) recommends the follow-up process for an abnormal pap smear include a clear and concise explanation from the medical provider. The

patient needs to understand the importance of follow-up and be part of the decision-making process. The recommended method of delivery of findings is verbal which can be over the phone or in person (Rask et al., 2017). One study found that delivery via phone call versus letter in the mail resulted in less anxiety, more satisfaction, and greater awareness of the understanding of diagnoses such as HPV (Rask et al., 2017).

Annual Exam and Conversation

The annual well-woman exam remains an important staple in preventive health. The wide range of health topics to be covered in the well-woman exam include anticipatory guidance tailored to the patient's health needs and experiences (Cappiello & Levi, 2016). Together the provider and patient should discuss ways to optimize the patient's health status while also discussing current concerns. Discussing whether the patient plans on becoming pregnant within the year is an important reproductive health topic that should be discussed during every visit (Bellanca & Hunter, 2013). Whether the patient is getting ready to conceive or the patient wants to start working towards cardiovascular health, the advanced practice provider is equipped to have these discussions. The provider-patient discussion provides an excellent opportunity for the provider to ask about health concerns that may have been bothering the patient, but not previously discussed with a provider (Cappiello & Levi, 2016). During the well-woman exam opportunities are provided to the patient for goal setting which then allows the provider to take part in helping the patient achieve their health-related goals.

Determination of Satisfaction/Needs Met

The well-woman exam includes components that are personal and require the patient to be honest with the provider. This sharing of personal information can disrupt the patient-provider relationship and alter patient satisfaction. Bryan and Chor (2018) recommend implementing four interventions to improve patient satisfaction during a visit. The first intervention begins with

establishing a rapport and thoroughly educating the patient on the exam process to create a positive impression on first well-woman visits (Bryan & Chor, 2018). This step should include an introduction by the provider of both the provider and the chaperone. The second intervention is to establish practices to orient the patient to the method of gowning, the exam process, and a discussion on who will be in the room during the examination (Bryan & Chor, 2018). Patients report increased satisfaction when providers are sensitive to the patient's sexual and gender identity (Bryan & Chor, 2018). Acknowledgment of gender/sexual identity with preferred pronoun use adds to a positive patient experience. The third intervention that contributes to patient comfort involved the provider eliciting continuous feedback from the patient (Bryan & Chor, 2018). This includes checking on the patient during the pelvic exam and reminding the patient that the exam can be stopped at any time. The authors explained that while the provider explained the exam and the patient was comfortable with the beginning of the exam that does not mean the patient will be comfortable with the middle of the exam. The only way for the provider to know if the patient continues to be comfortable with the contents of the exam is to ask the patient.

Methods

Project Intervention

The project strategies, interventions, and responsible parties were delineated by the Project leader and discussed with the Project Mentor and Clinic Administrator. The strategies were designed to fulfill the identified goals (Table 2).

The project interventions were designed to be initiated when female patients called to schedule an appointment for a gynecological concern. The medical assistants in the university health clinic used the gynecological screening questions to navigate the scheduling process. The

medical assistant first determined if the female patient was between the ages of 21 through 65 years old. The medical assistant then asked the patient when their last well-woman exam was completed. If the patient's last exam was normal and within the prior 3 years, the medical assistant scheduled the patient for a routine appointment. If the patient's last well-woman exam occurred 3 or more years ago or if the patient had never received a well-woman exam, the patient was then scheduled for a well-woman exam. The medical assistant selects in the Electronic Health Record (EHR) Well-Woman Exam as the reason for the visit and uses the exam note of Well-Woman Exam. This important step automatically populates the WPSI screening box. At the beginning of the week, the project leader reviewed appointments that had been made by the medical assistants to ensure eligible patients were offered a well-woman exam when appropriate.

Table 2*Project Strategies, Interventions, and Responsible Party*

Implementation Strategies	Intervention	Responsible Party
Well-Woman Exam Guideline Presentation & Review	Create educational program.	Project leader
	Work with medical providers to schedule participation in education.	Project leader
	Review evidence-based notification literature.	Project leader
Screen gynecological appointments	Create screening questions for clinic staff.	Project leader
	Obtain clinical director approval of the screening process.	Project leader
	Review screening questions with staff.	Project leader
	Begin using screening questions.	Medical assistants
Eligible patient report list.	Track screening question responses.	Project leader
	Create monthly report list of newly eligible WWE patients.	Project leader
	Provide education and give list to work study students to call and offer appointments.	Project leader

Implementation Strategies	Intervention	Responsible Party
	Participate in education to learn call strategy for WWE. Call newly eligible patients to offer WWE.	Work study students
Incorporate guideline recommended well-woman exam components	Conduct well-woman exams using WPSI guidelines and component completion chart. Indicate by clicking on the box the components covered during each exam. Review completed WPSI checklists weekly.	Medical provider Medical provider Project leader
Incorporate patient comfort measures	Create evidence-based patient comfort checklist. Initiate use of patient comfort checklist. Review checklist completion weekly.	Project leader Medical providers Project leader
Abnormal pap smear findings	Create follow-up protocol for abnormal exam. Obtain administrative approval of the notification protocol. Initiate use of the abnormal exam findings protocol.	Project leader Project leader Project mentor Medical provider
Select and bill proper codes	Collect the proper codes and definitions to be used for a well-woman exam. Submit the proper billing code for a well-woman exam. Bill and track reimbursement for well-woman exams.	Project leader Medical provider Billing manager
Patient feedback	Create a survey on the experience of the well-woman exam. Obtain administrative approval of the survey. Call the patients that received a well-woman exam and collect survey answers. Create presentation of survey responses. Discuss survey responses with medical providers. Make modifications to processes as needed.	Project leader Project leader Project leader Project leader Project leader Project leader Project leader Project leader Medical providers Project leader Medical providers Clinic staff

Both the Well-Woman Exam note and EHR WPSI Screening tool were created in conjunction with the CureMD technology department. The intention for integration was that the providers would have recommendations immediately available, screenings would be comprehensive, and continuity of care would come with increased ease. The project leader and informatics technician collaborated to create a version of the EHR WPSI screening tool that was a functional chart and helpful to the practitioners (Figure 2). The project leader discussed with the informatics technician the need for separate age components and distinction between components that were and were not recommended by all supporting bodies. For example, an asterisk within the EHR notes not all organizations support screening for diabetes in a routine well-woman exam.

During the exam, the provider begins by selecting the age group for each category (General Health, Infectious Disease, and Cancer). Then the provider selects the screenings that were completed during the exam (Figure 3). If the provider uses a computer during the exam the list serves as a reminder of the screens that should be completed. While the technician was unable to add a description of each screen to the EHR the project leader was able to create a hard copy for the providers and display the list on the office wall for reference. The Well-Woman Exam note was created with the exam workflow in mind. Favorite's list were created for the provider to use during the selection of common ICD-10 codes for efficiency and improvement of provider workflow. Part of the provider education included how to customize this list for personalization.

Figure 2

EHR WPSI Chart

Custom Forms Clinic Test 21Y 5M, Female

Templates Add Custom Form

Accept Print

GENERAL HEALTH

13-17

18-21

Alcohol use screening & counseling

Anxiety screening

Blood pressure screening

Contraceptive counseling & methods

Depression screening

Diabetes screening*

Folic acid supplementation

Healthy diet & activity counseling*

Interpersonal & domestic violence screening

Lipid screening

Obesity screening & counseling

Substance use screening & assessment

Tobacco screening & counseling

Urinary incontinence screening

22-39

40-49

50-64

65-75

>75

INFECTIOUS DISEASES

13-17

18-21

Gonorrhea & chlamydia screening

Hepatitis B screening*

Hepatitis C screening (at least once)

HIV preexposure prophylaxis*

Patient Comfort Measures

Provider introduced self

Provider introduced chaperone

Provider checked patient comfort during pelvic exam

Previous Next

Note. Example data of a 21 year old test patient. Only the age-appropriate WPSI components were populated for the provider to select. On the right-hand side are the Patient Comfort Measures, which demonstrates how these measures were added to the documentation.

Figure 3*Populated EHR WPSI Chart*

<p>Well Woman Exam Screenings</p> <p>GENERAL HEALTH: 18–21 Alcohol use screening & counseling Anxiety screening Blood pressure screening Contraceptive counseling & methods Depression screening Folic acid supplementation Interpersonal & domestic violence screening Lipid screening Obesity screening & counseling Substance use screening & assessment Tobacco screening & counseling Urinary incontinence screening ; Patient Comfort Measures Provider introduced self Provider introduced chaperone Provider checked patient comfort during pelvic exam</p> <p>INFECTIOUS DISEASES: 18–21 Gonorrhea & chlamydia screening Hepatitis C screening (at least once) HIV risk assessment HIV screening (at least once) Immunizations STI prevention counseling</p> <p>CANCER: 18–21 Cervical cancer screening (> or equal to 21 yo)</p>

Note. Figure 3 shows how the WPSI Chart will populate within the patient chart once the provider has selected the screenings that were completed during the exam.

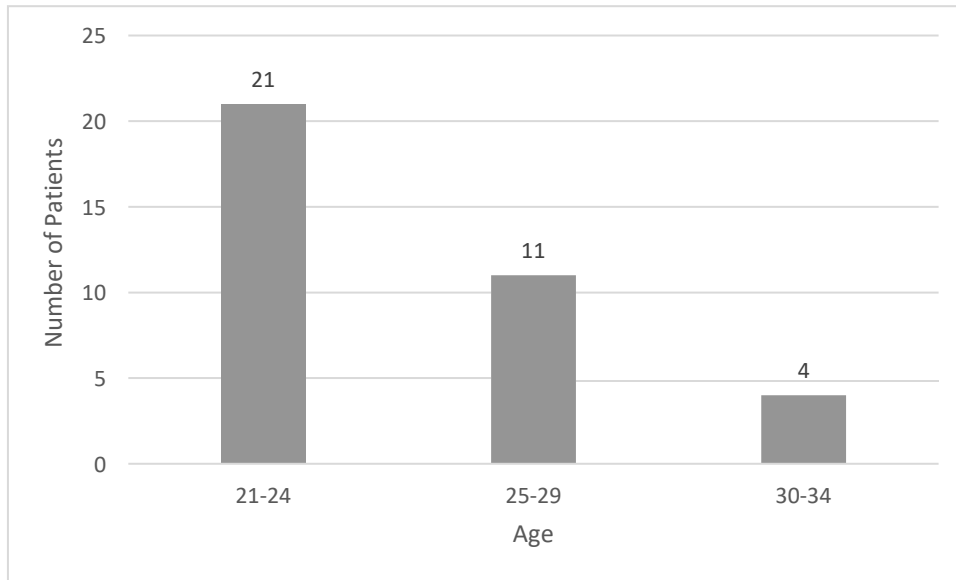
Once the patient presents for a well-woman exam, the medical assistant obtains vital signs, and escorts the patient to the exam room. The provider introduces themselves and the chaperone. The provider then explains the well-woman exam and the pelvic examination in detail, provides age-appropriate education, and explains how to put the gown on. The provider then leaves the room and returns once the patient is dressed in a patient gown. The provider verbalizes each portion of the exam as it is performed and at least once during the pelvic exam will ask the patient if the comfort level is acceptable. Once both the education and exam are complete the provider will complete the age-appropriate WPSI chart within the EHR. Once the laboratory results are returned to the provider, the patient will receive a telephone call with the results. The patient will also receive an email copy of results for their own reference, as needed. The provider follows the 2019 ASCCP Guidelines (Perkins et al., 2019) for recommended treatment. If the patient needs a referral to an obstetrical/gynecologist (OB/Gyn) the physician and patient will collaborate to select a referral doctor at that time. If the patient decides to pick a

provider at a later time, the patient is asked to inform the provider/wellness center of their selection as soon as possible so that a referral can be sent. The provider documents the follow-up conversation in a Telephone Encounter note including both lab results and referrals. Each patient was called by the project leader to survey the patient experience. The patient experience results were aggregated and analyzed weekly and distributed to the providers bimonthly.

Setting/Population

The setting for the project was a university-based clinic that has the ability to function as a primary care clinic on the campus of a university. This clinic serves the students and employees of the university Monday through Friday year-round. The mean age for a well-woman exam patient at the clinic during the project period was 23.6 years old and ranged from 21-32 years old (Figure 1).

A majority of the patients seen during this project did not identify their ethnicity (Table 3). The WWE patients were primarily university students and were first time well-woman exam patients. Therefore, when scheduling an appointment, the project leader frequently discussed with the caller that the exam was focused on women's health issues and may include a pelvic exam. Insurance accepted by the clinic included Gilsbar, Wellfleet, Blue Cross Blue Shield, Cigna, Aetna, Humana, and United Health Care. The clinic also accepted self-pay patients.

Figure 4*Number of Patients per Age Group***Table 3***Summary Characteristics of Project Participants*

Characteristic	Number (Percent)
First time Well Woman Exam	
Ethnicity	
Not Hispanic or Latino	4 (11.1%)
Hispanic or Latino	9 (25.0%)
Not Identified	21 (58.3%)
Patient Uncertain	1 (2.8%)
Patient Declined to answer	1 (2.8%)
Student	35 (97.2%)
Employee	1 (2.8%)
Insurance	
WellFleet	25 (69.4%)
BlueCross BlueShield	8 (22.2%)
Gilsbar	1 (2.8%)
Aetna	8 (22.2%)

Organizational Barriers and/or Facilitators

A major project facilitator during the implementation phase of the project was the availability of the information technology representative for the EHR. The IT technician assisted in the changes that were required at the beginning of the project to create an easy-to-use EHR template that followed the flow of the well-woman exam.

The efficiency of the medical assistants facilitated the well-woman exam. Appropriate stocking and availability of patient exam supplies helped provider workflow and allowed the clinic to quickly increase the number of well-woman exams.

The ability of the clinic to verbalize their satisfaction/dissatisfaction with workflow changes was a significant facilitator. The providers and staff communicated immediate feedback regarding workflow ease and incompatibilities enabled changes to be made in the project to facilitate effective implementation. For instance, appointment times began to overlap as patients did not complete their patient history paperwork before their appointment. The providers and medical assistants communicated this to the project leader and an intervention was established. Now when the medical assistants are making well-woman exam appointments the patients are emailed a copy of the paperwork to fill out before arriving to the appointment. This significantly reduced the wait time of not only the patient but the provider as well.

Organizational barriers include the limited availability of a female provider, which most patients preferred, when scheduling a well-woman exam. Frequently requested afternoon appointments or early days in the week were frequently booked and unavailable. The longer wait time for a scheduled appointment, the less likely that patients would keep their appointments. No-show fees are not charged to the patient unless the patient frequently does not show up for the appointments made for them. The clinic was also closed for religious and federal holidays,

further limiting the number of appointment slots available.

Ethical considerations made throughout the design, implementation, and reporting of this project included the protection of patient information. Importance of patient privacy was stressed during project design and provider/staff education. Data was protected following collection and data presented following the project was de-identified.

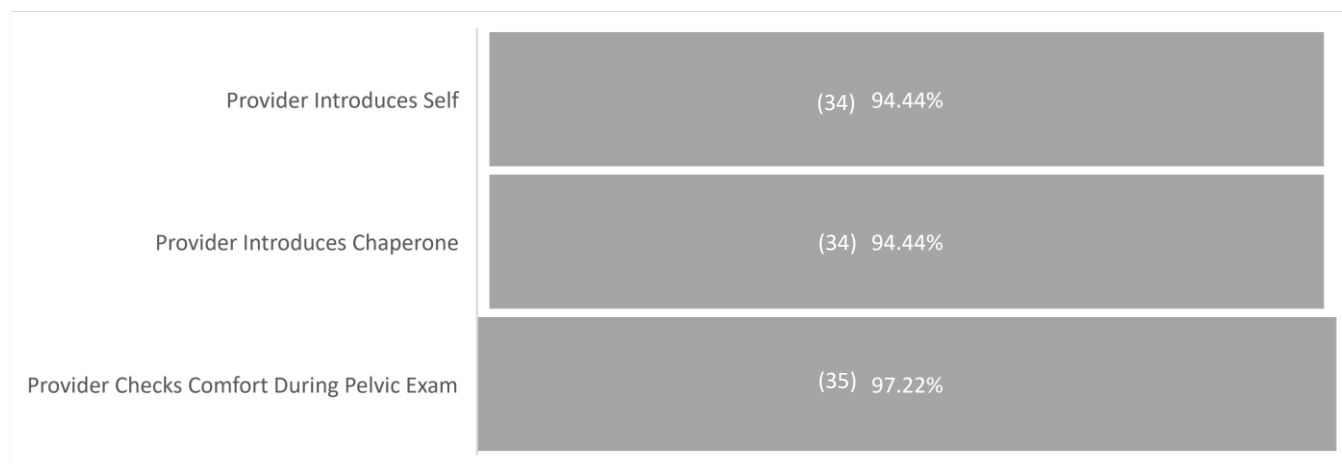
Results

Goal 1: Well-Woman Exam Provider Education and Guideline Review

An educational program was developed by the project leader and presented to the medical providers. Multiple times were offered in order to educate at the providers' convenience and all questions were answered at that time. Of the providers that were actively seeing patients in the clinic 100% participated in the education, the review and discussion of recommended guidelines, and delineation of interventions essential for well-woman exams.

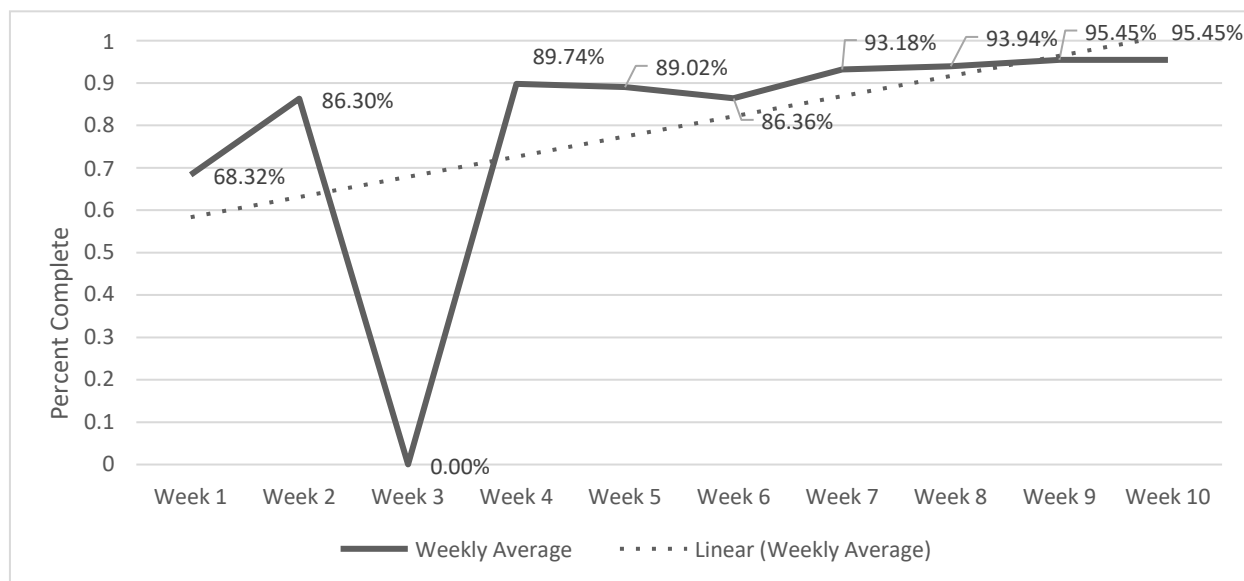
Goal 2: Incorporation of Patient Comfort Measures

During the education program evidence regarding patient comfort measures was discussed with the providers. The project leader then created an evidence-based patient comfort checklist to be used during the exam. The project leader embedded the checklist within the EHR charting for qualitative purposes, as well as legal purposes. Between January 31, 2021 and April 16, 2021 34 of the 36 well-woman exams (94.44%) incorporated all the key elements that increase women's comfort with well-woman exams including providers introducing themselves and the chaperone, as well as checking on the patient's comfort during the pelvic exam (Figure 5). Patients often commented during the survey process how comfortable they felt and had no additional recommendations to improve the patient experience.

Figure 5*Patient Comfort Measures Completed***Goal 3: Incorporation of Guideline Recommended Well-Woman Exam Components**

Weekly compliance with completion of well-woman exam components was obtained by calculating the number of components completed divided by the number of expected components to be completed for each patient (Figure 3). During week 1 providers completed 56 of the 78 (Average = 68.32%) well-woman exam components. Following week 1, the average percentage of exam components increased weekly. By week 9 and 10 the university-clinic sustained completion of 84 of the 88 (Average = 95.45%) recommended WPSI components. During week 3 the clinic was closed secondary to an ice storm (Figure 6).

Several days after the well-woman exam the providers would receive the pap smear results to review with the patients. The providers called 100% of the patients and reviewed the pap smear results using the protocol. The most difficult portion of the protocol was for patients to choose an OB/GYN over the phone with the provider to ensure zero fall out of an abnormal pap smear. However, during the project 0 of the 36 patients required a referral to an OB/GYN. The documentation portion of the protocol and communication of the results was followed 100%.

Figure 6*Weekly Percentage of WPSI Components Completed***Goal 4: Determine Proper Code and Submit for Reimbursement**

The project leader collected the proper codes and definitions to be used for a well-woman exam. This was done due to the need for proper reimbursement in accordance with the setting where the well-woman exam was conducted. Medical providers and the billing manager were provided education by the project leader on the correct billing codes for a well-woman exam. Billing specifically for the ICD-10 codes Z01.411 for Encounter for gynecological examination, general, routine with abnormal findings and Z01.419 for Encounter for gynecological examination, general, routine without abnormal findings were reviewed and 100% of the exams were billed correctly. There were findings of proper billing and zero reimbursement provided to the clinic due to the insurance plan not being established for the university clinic. In the future the clinic should take this factor into consideration when making an appointment for the patient.

Goal 5: Attain Positive Patient Feedback on Completed Well-Woman Exams

The project leader designed and implemented a phone survey to measure patient

experience with the well-woman exam. The project leader called each patient and obtained patient feedback from 23 (63.89%) of the 36 patients seen during the 10 weeks, well exceeding the 25% goal (Figure 7). Of the 23 patients that answered the survey questions 96% reported a score of 3 or greater on a scale of 0 to 5 in relation to visit satisfaction. Providers were notified of patient satisfaction monthly to provide constructive feedback and improve the patient experience. Examples include one patient who was unaware of the possibility of spotting blood after the collection of a cervix sample. Another patient experienced bleeding several days after the exam and in the past had not experienced this. Several patients were anxious to receive their screening results and asked when a provider would call them to discuss the results. Patients were enthusiastic to provide feedback to the project leader and were interested in when the results of the exam would be discussed.

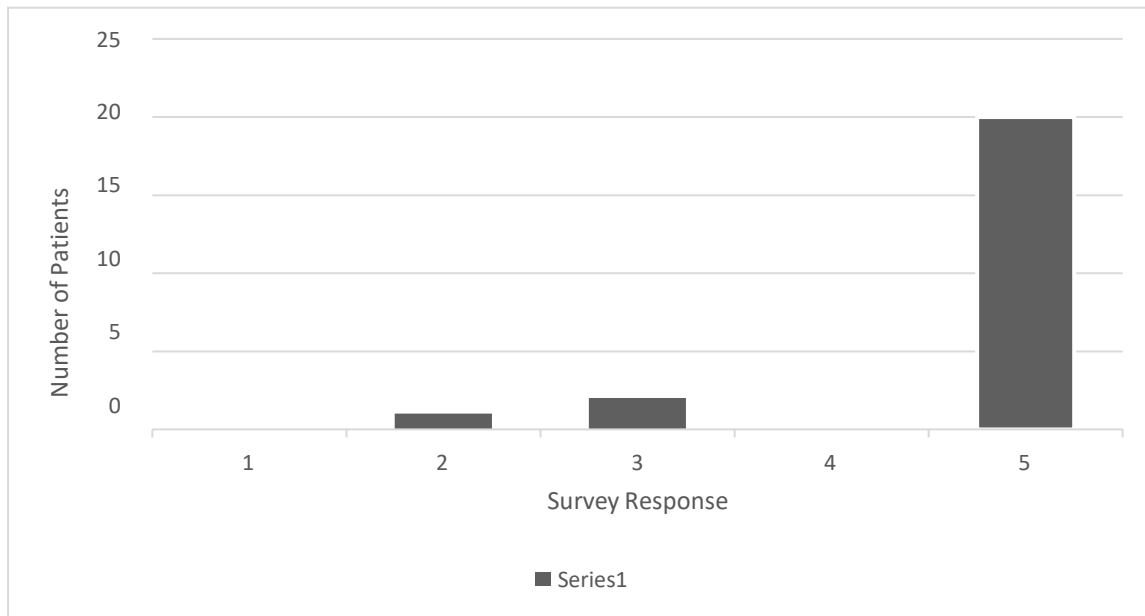
Goal 6: Increase the Number of Patients Receiving Well-Woman Exams

Well-Woman exams increased by 900% from January 31, 2021 to April 16, 2021 (Figure 8). Of all female exams performed at the clinic between January 31, 2021 and April 16, 2021 well-woman exams represented 36 of the 336 (10.7%) clinic exams as compared to the 4 well-woman exams in the pre-project period of January 31, 2020 to April 16, 2020. Data collection methods were insufficient to ensure all patients were screened for a well-woman exam during the scheduling portion of the project. The medical assistants found keeping a count of which exams were scheduled after the screening questions was inefficient. Part of the strategic patient outreach was reviewing previous appointments and looking for gynecological history which was frequently missing within the documentation. This caused some appointments to be made in error and an annual exam was completed instead. The project leader did not discuss this with the providers prior to the start of the project and typically the scheduling of an appointment is not a

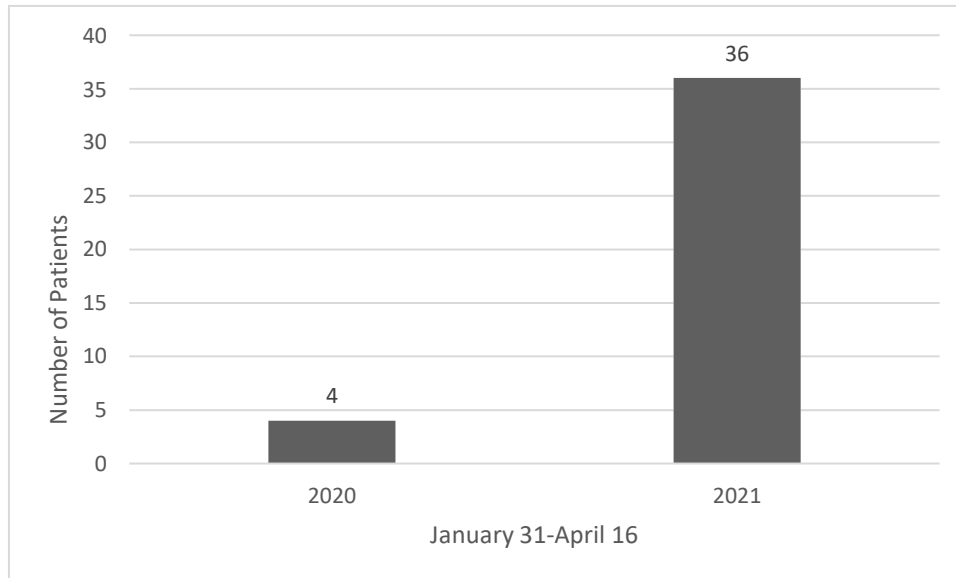
standard question asked during an acute exam. However, records indicate that 100% of eligible patients were called and offered a well-woman exam.

Figure 7

Patient Feedback on Completed Well-Woman Exams



Note. Figure 7 above describes the satisfaction value patients assigned to the providers when asked “On a scale from 1-5 (5 being the best and 1 being the worst) how would you rate your well woman visit?”

Figure 8*Number of Well-Woman Exams 2020 to 2021***Discussion**

The greatest success of this project was the ability to get the patients back into the clinic for comprehensive care. COVID-19 caused preventive medicine to become a low priority for many patients and this project helped to combat the reluctance to obtain primary care. During the project time frame the clinic was able to increase the number of well-woman exams by 900%. Many mental health, dental, and ophthalmic needs were identified during the well-woman exam screenings. These services are often free or at low cost to the patients, however many patients were unaware this was even offered through the university clinic. Financially, this project generated more than \$7,000 in revenue in 10 weeks.

Similar to the patient satisfaction research of Sultana et al. (2020) patients reported high satisfaction with the interaction received during the well-woman exam using the patient comfort measures. The clinic experienced similar feedback as Perks et al. (2018) as patients reported how

they felt well taken care of by nurse practitioners in the clinic. The survey feedback collected for the providers was positive and informational allowing for improvement in the patient care experience. Patients frequently commented on how thorough the exam was and heavily praised the participating provider. Changes that were made based on feedback were emphasizing the possibility of spotting after a cervical cancer screening and being as gentle as possible while collecting the sample. Documentation improved regarding the presence of a chaperone during a sensitive exam. Future providers are now able to see in a centralized area what screenings were performed during a previous well-woman exam which enables the provider to prevent unnecessary repeat testing already completed in a well-woman exam.

The project leader worked closely with the providers to ensure the clinic needs were met however, during the first week of the project additional workflow adjustments were identified as necessary during the first patient visit. When the project was constructed, the providers agreed to use a hardcopy form of the WPSI chart. This method was decided on because there was only one provider who would use the EHR during an appointment making a paper version of the chart most applicable. Once the project began the use of paper charting was out of the clinic routine and a computerized version was designed. The project leader worked with the information technology department to create an electronic checklist in the EHR. The checklist was embedded within the exam for future providers to be able to reference necessary screenings during the visit. This method was more efficient than searching through the entire patient record to see if a specific screening was completed. During the documentation redesign the administrator requested that the definitions for each screening be included within the EHR. This request exceeded the capability of the EHR and a hardcopy of the screening definitions were posted for reference on the provider's wall. A significant change was the shift to the well-woman exam

workflow beginning when the patient requested a gynecological appointment and extending through the results and/or the referral process to an OB/GYN, creating a more comprehensive look at the patient experience and needs. As discussed in Sanchez et al. (2019), the providers found additional diagnoses they were able to identify and treat. This continues to show the usefulness of the well-woman exam even in those patients who do not present with any complaints.

The clinic staff and providers reported feeling better prepared for a well-woman exam. The project strengths include the number of individuals called and notified that a well-woman exam was a service that the clinic offered. The service was added to the clinic website for marketing purposes, as the clinic assessment identified clarity on the availability of the service was needed.

Limitations

Limitations of this project included the COVID-19 pandemic. Many students attended online classes from remote locations and were not in the clinic vicinity. This limited the number of appointments as many students who were interested in scheduling an appointment were not within the city. During week 3 of the project the clinic location experienced an extreme weather event and staff were unable to schedule appointments during the week. There had been several exams scheduled during week 3 and not all of the appointments were able to be rescheduled.

Limiting group gatherings prevented the annual health fair from taking place, which eliminated an avenue to speak directly with university students about the clinic services. The project leader would have been able to provide education and marketing material to the students at the health fair. When speaking with students over the phone it was noted that many students had similar questions that could have easily been answered in a group setting. Typically, once

these questions were answered, patients were inclined to schedule an appointment without hesitation.

Recommendations

This evidence-based practice project demonstrated that doctoral prepared family nurse practitioners are well equipped to provide a comprehensive well-woman exam in a university-based setting. The EHR was an efficient method of evaluating comprehensiveness to ensure patients were offered an appropriate standardized exam. This method enabled the clinic to identify deficits and improve adherence through additional education.

As a method of increasing visits clinics should also consider using a strategic call list including patients who already have their contact information within the clinic EHR. Another effective strategy was to run reports on patients who had been to the clinic earlier in the year.

Clinics should be prepared to offer referrals to needed services including laboratory testing, vaccines, mental health services, ophthalmology, and dental services as part of preventive care. Students, in particular, need guidance in obtaining needed preventive health services.

Improving the collection of race and ethnicity information would allow the clinic to identify underserved populations at the university. The clinic could compare the number of enrolled students to the number of served students at the clinic. The clinic could also survey the students to see what their specific needs are when it comes to women's health.

Sustainability

Establishing the use of the WPSI chart as a standard within the clinic was the greatest factor in creating the sustainability for a comprehensive well-woman exam. In the future if the clinic chooses not to use the EHR form of the WPSI chart they now have a comprehensive

resource to provide evidence-based care to their patients. This project heavily relies on provider use of evidence-based screening. It is the provider's responsibility to stay up-to-date on the most current evidence-based screening. For example, right before the project began the project leader had to update the WPSI checklist as the 2021 version had just been published.

Marketing of clinic services to the students and staff are essential to maintain the volume of well-woman exams. Strategies include utilizing student workers during their down time to participate in calling patients to offer appointments.

Implications for Practice

Using a standardized method ensures patients are receiving comprehensive care. Maximizing the abilities of a clinic's EHR assists in the standardization of an exam to ensure all components are completed and documented. The doctoral-prepared nurse practitioner is essential in promoting wellness during a pandemic by increasing access to care and creating lifelong patterns for the patients they serve. This access to care allows for earlier intervention in life-altering diagnoses and continues to promote better care and improved health outcomes.

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Appendix

Institutional Review Board Approval Letter



12/8/2020

Project Lead: Gabriela Trevino

Project title: Using Education and Communication to Cultivate a University-based Health Clinic to Increase Well-Woman Exams: A Quality Improvement Project

Gabriela:

Your project titled Using Education and Communication to Cultivate a University-based Health Clinic to Increase Well-Woman Exams: A Quality Improvement Project was deemed to be **Not Regulated Research**.

Your proposed project was reviewed and found to not meet federal regulatory requirements for human subject research and does not require approval via the IRB process. Please use the IRB number **NRR [20-016]** when inquiring about or referencing this determination.

No further review of the project as proposed is required. Should you determine at any point you wish to add additional elements to the project, please contact us before initiating those components, as this may impact the determination.

For information regarding the IRB or the review process, please contact me at (210) 805-5885.

Sincerely,

Ana Hagendorf, PhD, CPRA

Ana Hagendorf, PhD, CPRA

Director, Office of Research and Sponsored Projects Operations Office of Research and Graduate Studies

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