INCREASING HPV VACCINATIONS IN PRIMARY CARE CLINIC

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BACKGROUND

- Every year the human papillomavirus (HPV) leads to nearly 27,000 new cases of cancer and 1,500 to 2,500 new cases of recurrent respiratory papillomatosis (RRP), or laryngeal papillomatosis, in the United States (Avelino, Zaiden, & Gomes, 2013; Walling et al., 2019).
- HPV is one of the most common sexually transmitted infections noted to be responsible for 99.7% of cervical cancer cases in women and is also accountable for some head, neck, penile and the majority of anal cancers in men and according to the CDC (2016), HPV has been identified as the source of approximately five percent of all cancers worldwide (de Sanjosé, Brotons, & Pavón, 2018).
- HPV has also been known to be the cause of Recurrent Respiratory Papillomatosis (RRP), which is the most common benign tumor of the larynx. Although RRP is considered to have a benign course, it tends to spread throughout the aerodigestive tract causing airway obstruction that may necessitate many surgeries to remove the lesions and prevent the threat of losing one's voice (Escobedo, Santillana, & González, 2018).
- The best protection against cancer and RRP caused by HPV is prevention and the utilization of the HPV vaccination called Gardasil (CDC, 2019).
- HPV vaccination coverage in the United States is suboptimal at 51.1% in 2018, which is less than a 3% increase from 2017's coverage at 48.6%, despite the over ten-year record of the safety and efficacy (Walker, Elam-Evans, Yankey, et al., 2019; Walling et al., 2016).

PURPOSE STATEMENT

The purpose of this quality improvement project is to increase the knowledge of providers on the HPV vaccination, and provider confidence in discussing the HPV vaccination with patients resulting in an increase in HPV vaccination uptake and patients being protected from potential cancers related to HPV.

PICOT

The PICOT question is: In primary care providers (P), how does HPV vaccination education provided to providers and patients through an informational poster, and positive provider recommendation of the HPV vaccine, with or without other immunizations (I) compared to current practice (C) affect the number of patients age nine to 45 that receive the first dose of the HPV vaccination series (O) over a 3 month period (T)?

OBJECTIVE

The primary objective of the project is to increase the number of HPV vaccination initiation by 5% three months after program implementation.

ACKNOWLEDGEMENTS

I would like to thank Dr. Oliver (Committee Chair), Dr. Miriam Butler (Committee Member), Shawna Surman (Committee Member), and the Pacific Mercy Primary Care clinic for their support with this project:
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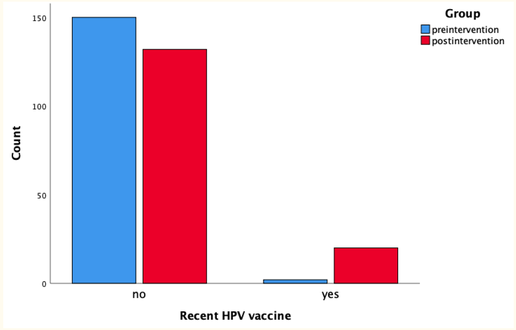
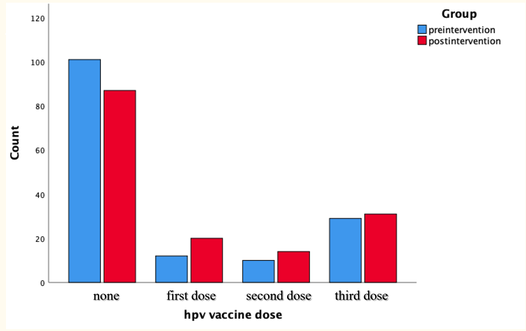
IMPLEMENTATION

•This quality improvement (QI) project was designed to evaluate an HPV vaccination pilot intervention conducted between 11/1/20 and 3/1/2021 at Mercy Clinic.
•The target population for this project was a convenience with purposive sampling was used to obtain participants for this project.
•Patients met the following inclusion criteria: age 9 to 45, any visit type (acute or well), HPV negative or HPV positive, received any dose or completion of series, and sexually active or not.
•Exclusion criteria consists of patients who have a contraindication to receiving the vaccine.
•Data was collected by navigating through patients charts on the EPIC electronic records at two time points: pre and post intervention.
•Using a confidence interval of 95%, a maximum of 5% margin of error, a population size of 250 patients, and a 50% response distribution, a minimum of 152 charts were required at both timepoint 1 and timepoint 2 (Raosoft, 2004).
•Nominal level data was analyzed with the Chi-square analysis test.
•Descriptive statistics were utilized to provide an overview of the project sample.
•SPSS Statistics version 26 (Chicago, IL) was used for statistical analysis.
•Statistical significance was defined as a $p < .05$.

RESULTS





Demographics

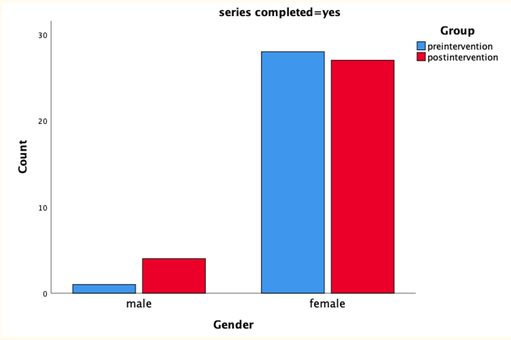
- The overall sample was White (97.7%, $n = 297$), followed by Black (2%, $n = 6$), and Hispanic (0.3%, $n = 1$).
- Sample was predominantly female (67.4%, $n = 205$) while males (32.6%, $n = 99$).
- The mean age of the sample was 20.88 years ($SD = 3.60$). The difference in age between genders was not statistically significant, $t = .374$, $df = 1$, $p = .54$.
- The insurance payer was Medicaid (49.7%, $n = 151$), followed by private insurance (48.4%, $n = 147$), and no insurance (2%, $n = 6$).
- Sample predominantly not married (78.6%, $n = 239$), followed by those married (21.4%, $n = 65$).
- Sample visit type was predominantly a sick visit (83.9%, $n = 255$) followed by a well visit (16.1%, $n = 49$). There was a 30.6 % drop in well visits and a 5.8% increase in sick visits between the preintervention group and postintervention group.
- Parental consent was predominantly not required (58.6%, $n = 178$), followed by those needing consent (41.4%, $n = 126$).
- Sample was predominantly sexually active (65.1%, $n = 198$) followed by not sexually active (34.9%, $n = 106$).
- Sample predominantly had no diagnosis of HPV (91.1%, $n = 277$), followed by those who have a diagnosis of HPV (8.9%, $n = 27$). It is important to note that having a diagnosis of HPV increased by 18.6% in the post-intervention making it minimally statistically significant $t = 1.02$, $df = 1$, $p = .31$.

Post-intervention Results

- There was an improvement of HPV vaccination initiation, as post-intervention No HPV Vaccine status reduced to 46.8% ($n = 132$) from 53.2% ($n = 150$), showing a 6.4% increase in HPV vaccination initiation.
- From a total of 152 patients in the preintervention as compared to the post intervention also consisting of 152 patients, there was an 81.8% increase in the amount of total HPV vaccines given showing a significant statical significance $t = 15.88$, $df = 1$, $p = .000$.
- Female patients were more likely to complete the series with 91.7% ($n = 55$) of the completed series being female as compared to 8.3% ($n = 5$) being male.
- Initiation of recent HPV vaccine post-intervention, male patients had a 100% increase going from none in the pre-intervention to 10 male patients initiating the HPV vaccine post intervention.
- Female initiation rate postintervention also increased by 83.3% ($n = 10$) as compared to only 16.7% ($n = 2$) preintervention.
- A Pearson Chi-square test showed a statistically significant improvement in the 3-month HPV vaccination status ($p = .000$).

CONCLUSION

- The project primary objective was met with a total of 11.9% of eligible patients initiating HPV vaccination series.
- Female patients were more likely to complete the series as compared to males, however, it is promising that the stigma behind the HPV vaccine only being given to females is likely to be diminishing due to the male gender being more likely to initiate the vaccine as seen in the post intervention data.
- The male initiation rate increased by 100% and female initiation rate increased by 66.6%.
- Females admit they are sexually active at 70.2% more often than men at 29.8%



RECOMMENDATIONS

- Recommendations were made to stakeholders regarding importance of continuing to educate staff and providers yearly about HPV vaccination to stay up to date on best practices and changes with eligibility for the vaccine.
- Staff was also encouraged to address vaccine status at every appointment type and to keep posters for reminders while patients wait to be seen in patient rooms.
- Clinically significant outcomes are important in highlighting the efficacy of educational posters in increasing HPV vaccination rates.
- Limitations of the project include a short project time interval and use of convenience sampling, with most of the clinic's patients being older in age and would not fall within eligibility of the HPV vaccination; decrease time that patients would have to read the posters due to closed waiting rooms and minimal provider time spent with patients due to the COVID19 pandemic and the requirement to close waiting areas and decrease provider time to limit patient exposure; and the inability to perform a more formal in person educational session due to social distancing and limited exposure due to the COVID 19 pandemic.
- Educating staff and creating HPV vaccination educational posters demonstrated the ability to increase HPV vaccination series initiation.
- This quality improvement strategy can be improved and more educational poster exposures in waiting rooms or additional waiting areas, and by creating a more reliable computer system reminder to providers help aid in the increase in overall clinic HPV vaccination rates, with the aim of decreasing HPV related disease over a patient's lifetime.

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