

Improving Human Papillomavirus (HPV) Vaccination Rates through Age-Based Flagging

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BACKGROUND

- Over forty million Americans are currently infected with HPV.
- HPV can cause cancers of the cervix, vagina, vulva, penis, anus, and throat.
- Only half of U.S. adolescents have started the HPV vaccination series.
- Almost 5,000 women die every year from a vaccine preventable cancer.
- Goals of this scholarly project are to 1) improve adolescent (8-18) vaccination initiation rates, 2) increase provider and parents awareness of HPV vaccine using electronic health record (EHR) prompts and 3) ensure evidence-based practice.

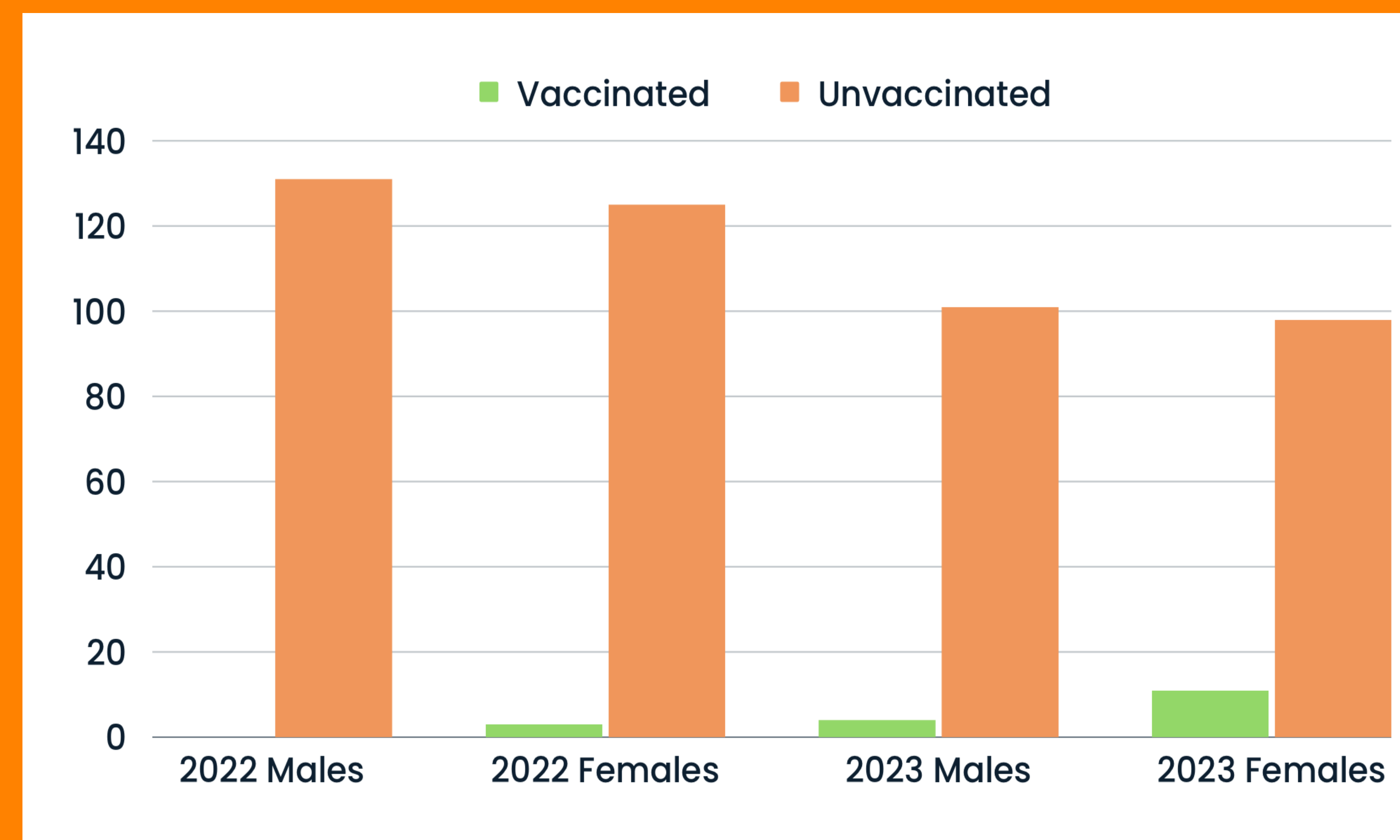
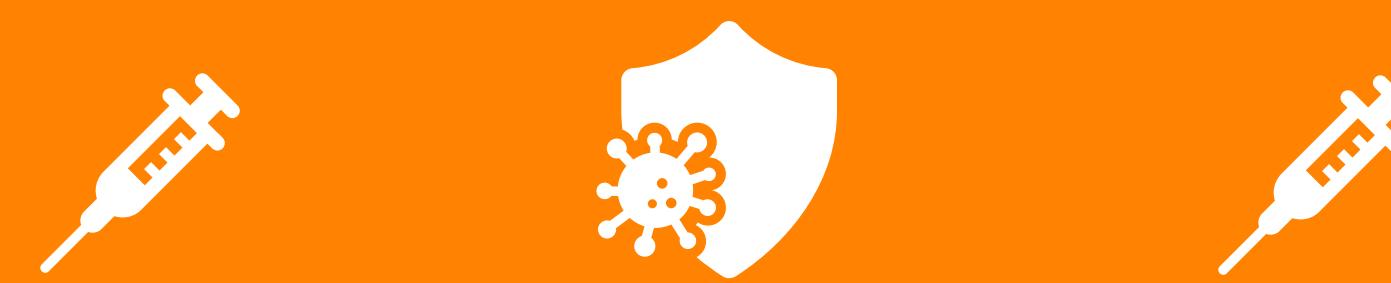
LOCAL PROBLEM

- The DNP scholarly project took place in a rural family practice clinic located in a small central Texas town.
- With a population of 1,300 people, the clinic serves as a local resource for adolescents who attend the public school one mile away.
- Participants include adolescents aged eight to eighteen, both male and female who are eligible to receive the HPV vaccination series.
- Rural communities experience health disparities at higher incidence rates than the average population including HPV vaccination coverage.

METHODS

- EHR age based flagging has been shown to improve vaccination rates however, the EHR at the rural clinic was unable to accommodate an age based flag.
- Using the PARIHS (Promoting Action on Research Implementation in Health Services) model, I developed at intervention of physical age-based flagging with a HPV vaccine brochure and a blue door flag.
- Adolescent vaccine rates were measured from May 1-July 31, 2022 and May 1-July 31, 2023 after implementation.

Rural adolescents age 8-18 were *significantly more likely to receive the HPV vaccine* after implementation of age based flagging.



INTERVENTIONS

- 7 clinic staff (2 RN, 3 FNP, 2 desk clerks) were given education on HPV vaccine statistics, facts and frequently asked questions.
- A pre and post test were performed. Staff endorsed feeling more comfortable teaching parents about the HPV vaccine.
- Clinic staff were instructed to give any parent and/or adolescent age 8-18 an HPV pamphlet.
- RN's and providers were instructed to review pamphlet with parents.
- Nurses and aids alerted providers of a vaccine aged child's appointment using a blue door flag.

RESULTS

- Pretest average was 71.43% (SD = 7) and post test average was 97.14% (SD = 1.79).
- In 2022, 1.16% of patients received HPV vaccinations compared to 7.25% of patients receiving the HPV vaccination in 2023.
- In 2022, 0.0% of male patients received HPV vaccinations compared to 3.85% of male patients receiving the HPV vaccination in 2023.
- In 2022 2.34% of female patients received HPV vaccinations compared to 10.68% of female patients receiving the HPV vaccination in 2023.
- There was a statistically significant increase between all 2022 and 2023 vaccination rates for total participants, males, and females as assessed by Fisher's exact test, $p < 0.05$ (0.001, 0.037, 0.011).

CONCLUSIONS

- Implementations as simple as educational pamphlets and age-based room flagging were proven to significantly improve vaccination rates at no extra cost to the community or clinic.
- The work burden of implementation can be completely removed once the EHR becomes capable of age-based flagging.
- Pamphlets and door flagging will remain available for project sustainability.

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