The Impact of Behavioral Nudges, Communication Training, and Assessment and Feedback on Adolescent Vaccination Rates

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BACKGROUND

- HPV related cancers affect more than 40,000 Americans each year [1]
- The Centers for Disease Control and Prevention recommend HPV vaccination beginning at age 9, but <50% of adolescents in the Midwest complete the recommended HPV vaccine series [2]
- Widespread uptake of effective strategies to promote HPV vaccination has not been realized
- Behavioral nudges may be an effective method to improve HPV vaccination rates, however no studies have examined the impact of combining nudges with communication training and assessment and feedback on HPV vaccination rates and parental satisfaction

METHODS

Procedures

- Four ambulatory pediatric practices were randomly assigned to receive either 1) assessment and feedback or 2) assessment and feedback with provider vaccine communication training and commitment posters
- Providers (n=16) completed surveys regarding vaccine polices
- Parents of adolescents eligible for HPV vaccine (n=230) completed a survey regarding child's vaccine history and satisfaction with the consultation
- Exclusion criteria:
  - HPV vaccine series completion
  - Inability to speak English
  - Severe illness
- Practice-level vaccination rates were collected through billing data (pre and post-intervention) and parent and provider responses were collected via REDCap on tablet computers

Measures

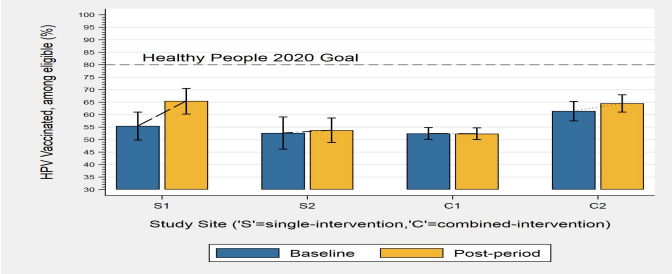
- Demographics
- Vaccine History/Policies
- Thoughts about HPV vaccines

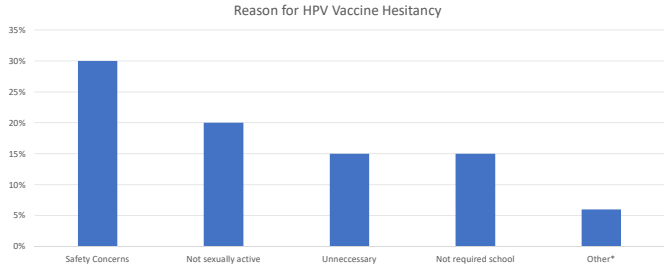
Analysis

- Frequencies and percentages generated using Stata/SE 15.1

RESULTS

- Demographics: n = 215; M age 41.34; SD 8.05; 85% Female; 68% White
- Three of the four practices experienced an increase in HPV vaccination rates
- Rates in HPV vaccination were statistically significant by practice site (p<0.001); but not study arm (p=0.132)
- All practices increased rates of Tdap, and Meningococcal vaccine
- Most parents (61%) indicated their child previously initiated the HPV vaccine series
- Seventy-two percent of parents indicated receipt of an HPV vaccine during the study visit
- Some parents (28%) were HPV vaccine hesitant, rates were similar between study arms (p=0.51)
- Most parents (97%) were satisfied with the consultation with their child's health care provider





*Other: Lack of insurance/ costs; No provider recommendation; Lack of knowledge that HPV causes cancer

Table 2. Tdap and MCV vaccination rates

clinic	vaccine	Baseline	Post	change
C1	Tdap	86.6	88.3	1.7
C2	Tdap	57.1	69.2	12.1
I1	Tdap	71.3	73.4	2.1
I2	Tdap	72.9	74.2	1.3
C1	MCV	84.5	87.6	3.1
C2	MCV	79.6	83.0	3.4
I1	MCV	72.5	75.1	2.6
I2	MCV	86.1	86.9	0.8

CONCLUSIONS

- Practices in both intervention groups evidenced an increase in adolescent vaccination rates
- Practices with higher baseline HPV vaccination rates (1 control and 1 intervention) evidenced the greatest increase in HPV vaccinations
- Some parents harbor concerns about HPV vaccine safety and necessity
- Parents report high levels of satisfaction with their child's health care provider and welcome HPV vaccine discussions regardless of their vaccine decisions

LIMITATIONS

- Practice policies and demographics (e.g. smaller size, fewer providers, stable patient population) may impact vaccination rates
- Parent reports of prior vaccine uptake may have been inaccurate due to recall bias
- Parent's satisfaction with their consultation may have been impacted by their willingness to participate in a research study

References: [1]Curtin et al. National Vital Statistics Report 2018; 67(4):1-16
[2]Rhodes et al. Pediatrics 2017; Can J Psychiatry 2013;58 (5):274-82

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