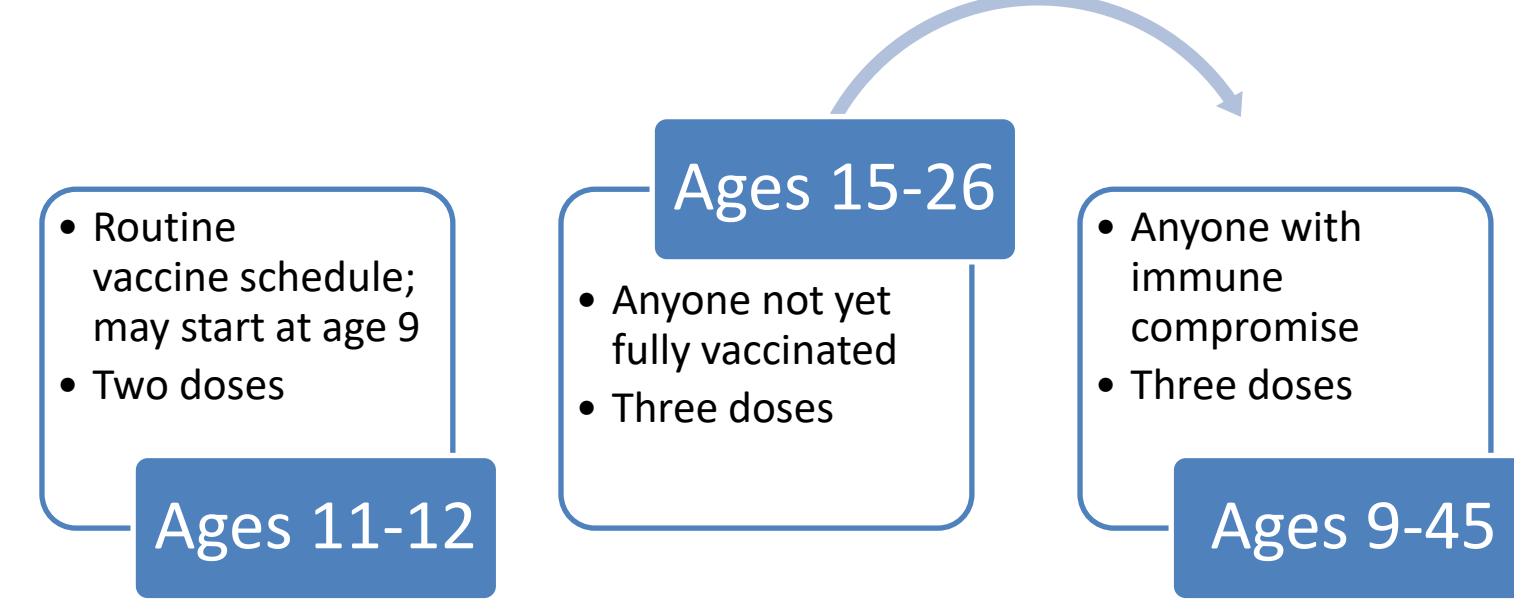


BACKGROUND

- Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States and most prevalent in late teens and early 20s
- Persistent infection may progress to cervical, anal, oropharyngeal, vaginal, vulvar, or penile cancer
- Safe & effective HPV vaccine recommended for everyone aged 9-26 years



Recommended number of doses	Recommended dosing schedule
2 doses	0, 6-12 months
3 doses	0, 1-2, 6 months

- National HPV vaccination rates are below the Healthy People 2030 goal of 80%
- Data indicates decreased HPV awareness and intent to vaccinate
- Assessing community vaccination rates and identifying conceivable barriers to vaccination will inform specific interventions to improve vaccination rates

OBJECTIVES

- Primary objective: Assess HPV vaccination rates among first-year college students over two consecutive years
- Secondary objectives: Assess student knowledge of HPV and the HPV vaccine and attempt to identify barriers to HPV vaccination

METHODS

Phase 1: Data Collection

Retrospective health record review of the 2019 and 2020 matriculating students to quantify HPV vaccination rates among first-year students

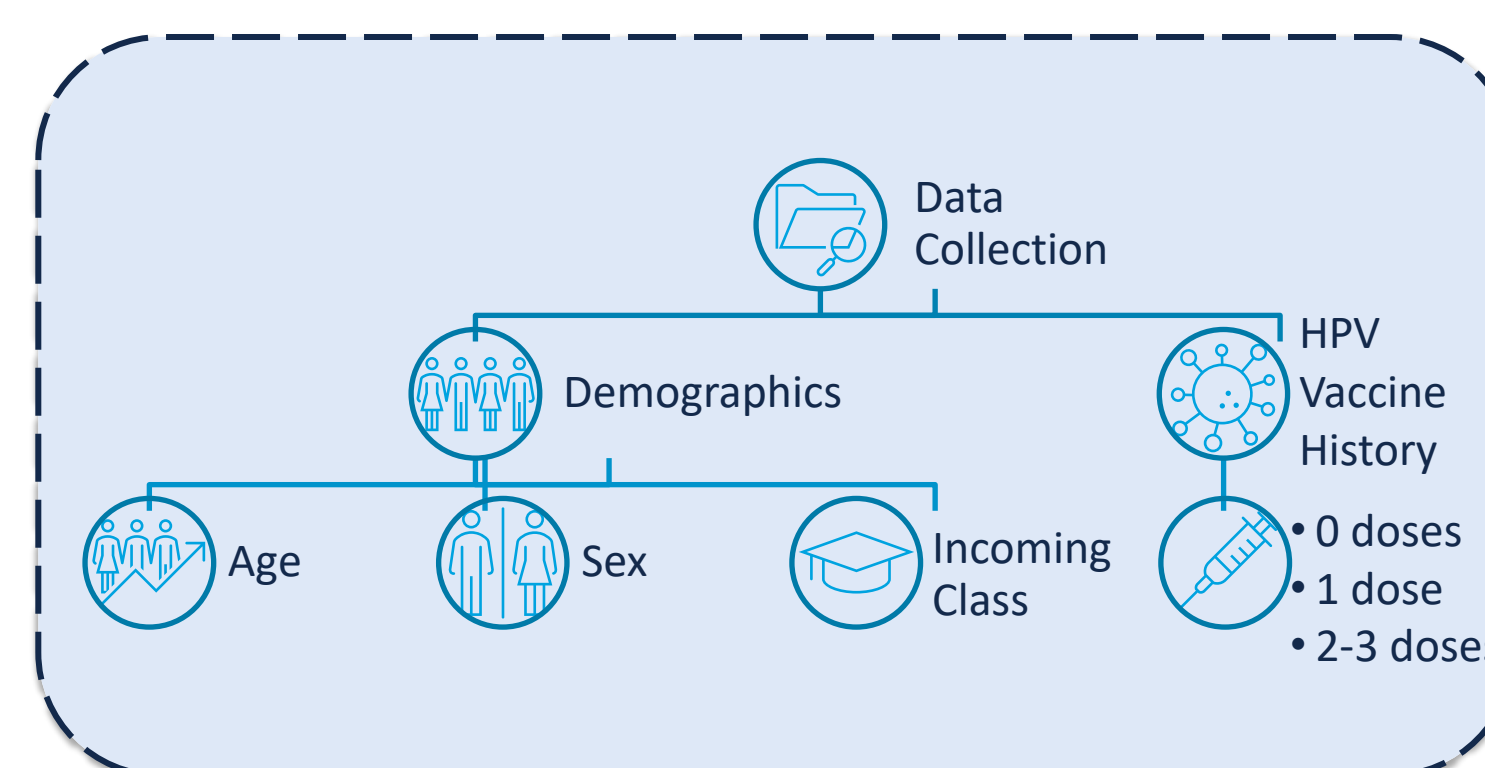
Phase 2: Survey

Prospective survey to assess student knowledge and identify potential barriers to HPV vaccination

- Inclusion Criteria:
 - Butler University students 18 – 45 years
- Exclusion Criteria:
 - Transfer and graduate students

Phase 1: Retrospective Health Record Review

- Student rosters obtained from Registration & Records
- 250 students randomly selected from each cohort of first-year students matriculating fall 2019 and fall 2020
- Student immunization record data extracted from campus electronic health record
- Data de-identified and coded for analysis

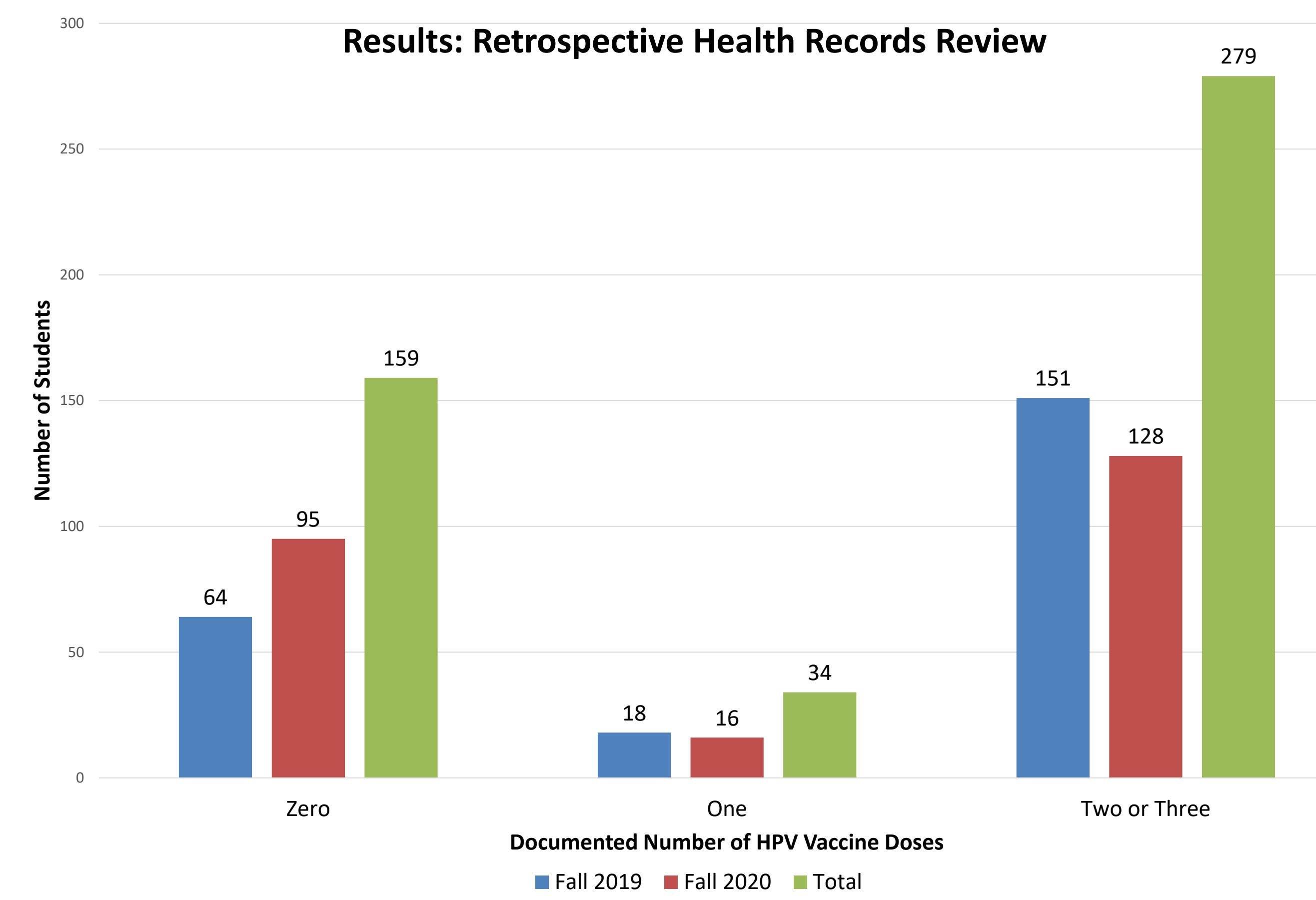


Phase 2: Prospective Survey

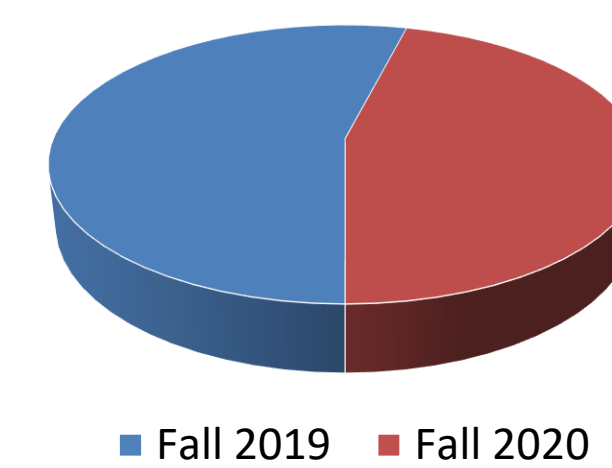
- Office of Institutional Research and Assessment distributed the Qualtrics survey to 4,203 undergraduates spring 2021 with a 6-day survey period
- Participation was voluntary and survey responses remained anonymous
- Survey consisted of 16 multiple-choice questions to assess HPV and vaccine knowledge, identify potential vaccination barriers, and collect demographics

RESULTS: PHASE 1

Demographics: Retrospective Health Records Review			
	Fall 2019 Cohort	Fall 2020 Cohort	Total
Participants	233	239	472
Sex (%)			
Female	122 (52.4%)	134 (56.1%)	256 (54.2%)
Male	111 (47.6%)	105 (43.9%)	216 (45.8%)
Age, mean	18.2	18.1	18.1



Received at least 1 Vaccine Dose



Receiving at least 1 vaccine dose more likely to occur in Fall 2019 vs Fall 2020 (p = 0.007)

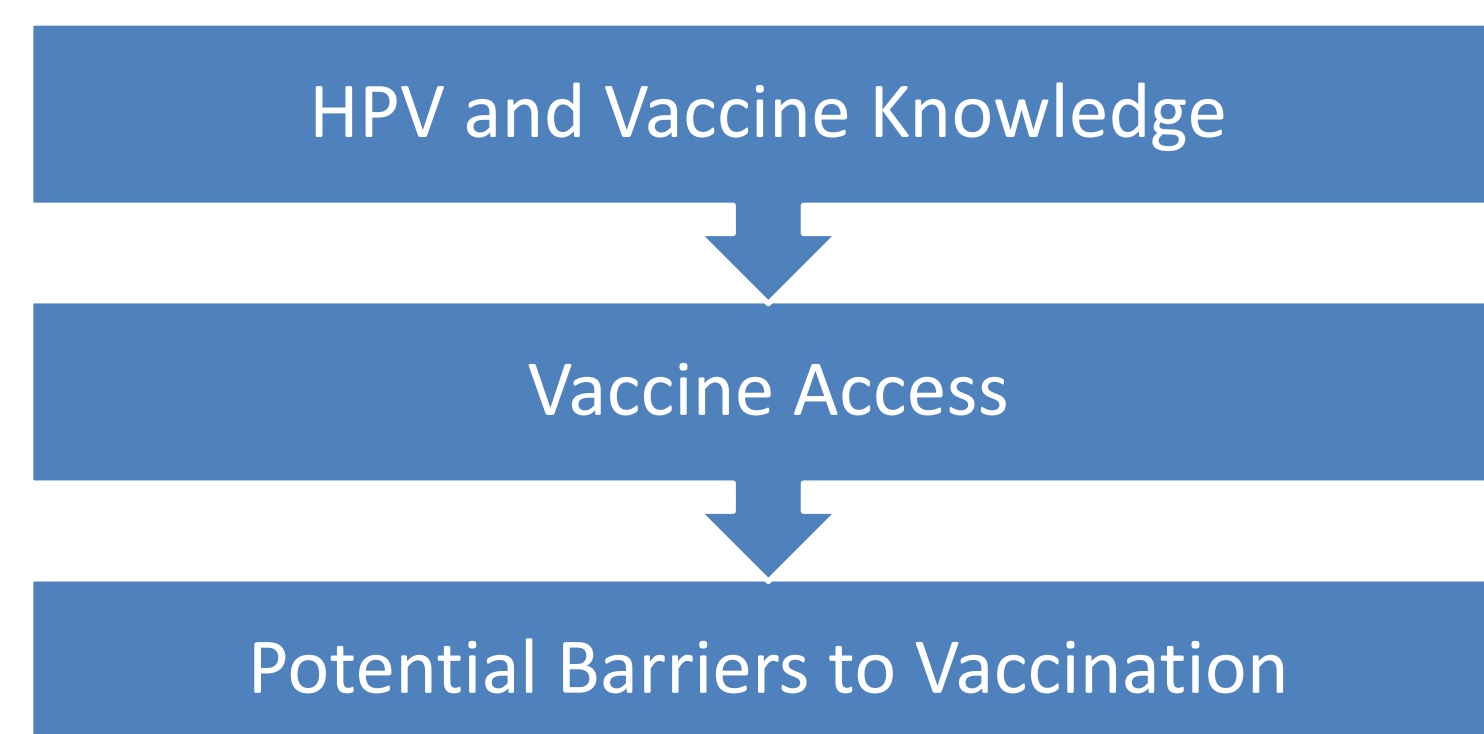
Received at least 1 Vaccine Dose: Analysis by Sex

	Female (%)	Male (%)	P-value
Fall 2019	85 (69.7%)	66 (59.5%)	p = 0.02
Fall 2020	83 (61.9%)	45 (42.9%)	p = 0.003
Total	168 (65.6%)	111 (51.4%)	p = 0.003

Receiving at least 1 vaccine dose more likely to occur in female vs male (p = 0.003)

RESULTS: PHASE 2

Survey Categories



Demographics: Prospective Survey

Total respondents	619
Age, mean	20.4
Gender	
Female (%)	470 (75.9%)
Male (%)	134 (21.7%)
Other	15 (2.4%)
Hometown	
Metropolitan	333 (53.8%)
Rural	202 (32.6%)
Unanswered	84 (13.6%)

RESULTS: PHASE 2

Knowledge

- 95.8% of respondents were aware HPV is an STI easily transmitted through sexual, skin-to-skin contact
- 89.5% of respondents were aware that HPV infection can lead to significant health complications
- 95% of respondents were aware that a vaccine exists to prevent HPV

Access

- 29% of respondents had **not** received information about the HPV vaccine from a healthcare provider
- 39.4% of respondents had **not** received information about the HPV vaccine from a parent
- 56.5% were **not** aware they could receive the HPV vaccine at the campus health clinic
- 30% of male and 12% of female respondents did **not** know GARDASIL is recommended for everyone between the ages of 9 and 26 years

Barriers

- 22% of female and 9% of male respondents did **not** plan to receive the vaccine due to fear of needles and/or side effects
- 12.6% of respondents did **not** plan to receive the vaccine due to concerns about costs or insurance coverage

CONCLUSIONS

- HPV vaccination rates among Butler University first-year students are below the national benchmark targets for Healthy People 2030
- Female students were more likely to have received at least one dose of HPV vaccine compared to male students
- Butler undergraduate students appear aware of HPV, the potential complications of HPV infection, and the existence of the HPV vaccine
- Conceivable barriers to HPV vaccination among our student population include access to the vaccine, cost/insurance, and fear of needles and/or adverse effects
- Study results present an opportunity for pharmacy-led education and vaccination initiatives to improve vaccination rates

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