

# HPV Vaccine Trends and Attitudes since the COVID-19 Pandemic

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## ABSTRACT

### Introduction

The human papillomavirus (HPV) is responsible for cervical, oropharyngeal, vaginal, penile, and anal cancers. Vaccine hesitancy has historically played a role in HPV vaccine coverage in the United States and has surfaced at the forefront of public discourse since the COVID-19 pandemic. This study aims to determine how HPV vaccination attitudes and trends among physicians and patients have changed since the COVID-19 pandemic.

### Methods

Primary care physicians and patients (aged 9-45) participated in a voluntary survey investigating trends and opinions toward HPV vaccination since the COVID-19 pandemic. Patients were provided surveys in waiting rooms of primary care clinics. In patients under 18 years of age, the survey was completed by the patient's parent or guardian. The study was conducted in June-July 2022.

### Results

A majority of patients (87.7%) were aware of the HPV vaccine but only a third had received all three doses of the vaccine. Twenty-two percent of providers agreed that there has been an increase in misinformation about the HPV vaccine since the pandemic and 7.4% reported a decrease in patients' willingness to discuss and receive the vaccine. Most patients did not notice a change in opinion toward the vaccine since the pandemic, but 9.6% of patients felt more willing to discuss and 21.9% more willing to receive the vaccine. After recommendation by a health care professional and safety concerns, the news was the third most determining factor in patients' willingness or unwillingness to receive the HPV vaccine.

### Conclusion

Recent opinions on receiving the HPV vaccine may be associated with the polarizing climate during the COVID-19 pandemic. Understanding how trends in vaccine hesitancy have changed since the pandemic will allow further and more targeted efforts to increase HPV vaccine uptake.

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## INTRODUCTION

- The human papillomavirus (HPV) is responsible for nearly all cervical and many oropharyngeal, vaginal, penile, and anal cancers
- In 2018, the FDA expanded the age range for the HPV vaccination for individuals aged 9-45<sup>1</sup>
- However, the uptake rate in the United States has been poor, falling short of the national goal of 80% of adolescents completing the HPV vaccine series<sup>2</sup>
- Barriers to accessing the HPV vaccine include cost, low perceived risk of HPV infection, irregularity in preventative care, lack of recommendation from a healthcare practitioner, and vaccine hesitancy<sup>3,4</sup>
- Vaccine hesitancy has further surfaced at the forefront of public distrust and criticism since the start of the COVID-19 pandemic
- HPV vaccination rates declined more than 70% in March 2020 early in the pandemic and remained 25-50% below pre-pandemic levels in June 2020<sup>5</sup>
- Given the growing increase in vaccine hesitancy discourse and its possible long-term consequences on childhood vaccinations, we sought to examine how HPV vaccination attitudes and trends among primary care physicians and patients have changed since the COVID-19 pandemic

## METHODS

- A total of 100 participants (27 providers and 73 patients), were non-randomly selected to answer a survey about recent trends and opinions towards the HPV vaccine
- One version of the survey was completed by current practicing Loyola Medicine primary care physicians. A different survey was given to patients presenting to Loyola Medicine primary care clinics aged 18-45 years old or parents of patients of 9-17 year-olds.
- The provider questionnaire investigated recent trends in discussing and recommending the HPV vaccine, and barriers faced in providing the vaccine
- Data collected from the patient questionnaire included demographic information, vaccination status, attitudes towards discussing and receiving the HPV vaccine since the COVID-19 pandemic, and factors influencing their willingness or unwillingness to receive the HPV vaccine
- Descriptive statistics were performed on the data collected

## DISCUSSION

- A majority of providers and patients believed that there was no change in patients' willingness to discuss or receive the HPV vaccine since the COVID-19 pandemic, but 7.4% of providers noticed that patients and parents were less willing to discuss and receive the HPV vaccine (Figure 1)
- Additionally, 22.2% of providers agreed that there has been an increase in misinformation about the HPV vaccine (Figure 2). This could be a result of the constant news cycle during the pandemic with polarizing opinions on vaccinations.
- The most common barriers in providing the HPV vaccine among providers were parent and patient-centered. In contrast, early studies found financial concerns were frequently cited as barriers<sup>6</sup>. The shift may be attributed to the increase in misinformation and vaccine hesitancy.
- The news was the third most determining factor in patients' willingness or unwillingness to receive the HPV vaccine (Figure 3). Given the ubiquitous news surrounding vaccinations during the pandemic, more patients may make health decisions based on what they see and hear from the news.
- Interestingly, 9.6% of patients perceived themselves to be more willing to discuss and 21.9% more willing to receive the HPV vaccine (Figure 1). It is possible that the pandemic-related media coverage may have urged patients and parents to discuss and accept vaccines, including the HPV vaccine.

## RESULTS

Received the COVID-19 Vaccine	83.6%
Aware of the HPV vaccine	87.7%
HPV vaccine was recommended	37.0%
Received full (3) doses of the HPV vaccine (n=70)	25.7%
Received the HPV vaccine since the COVID-19 pandemic	11.1%

Table 1: Vaccination status of patients

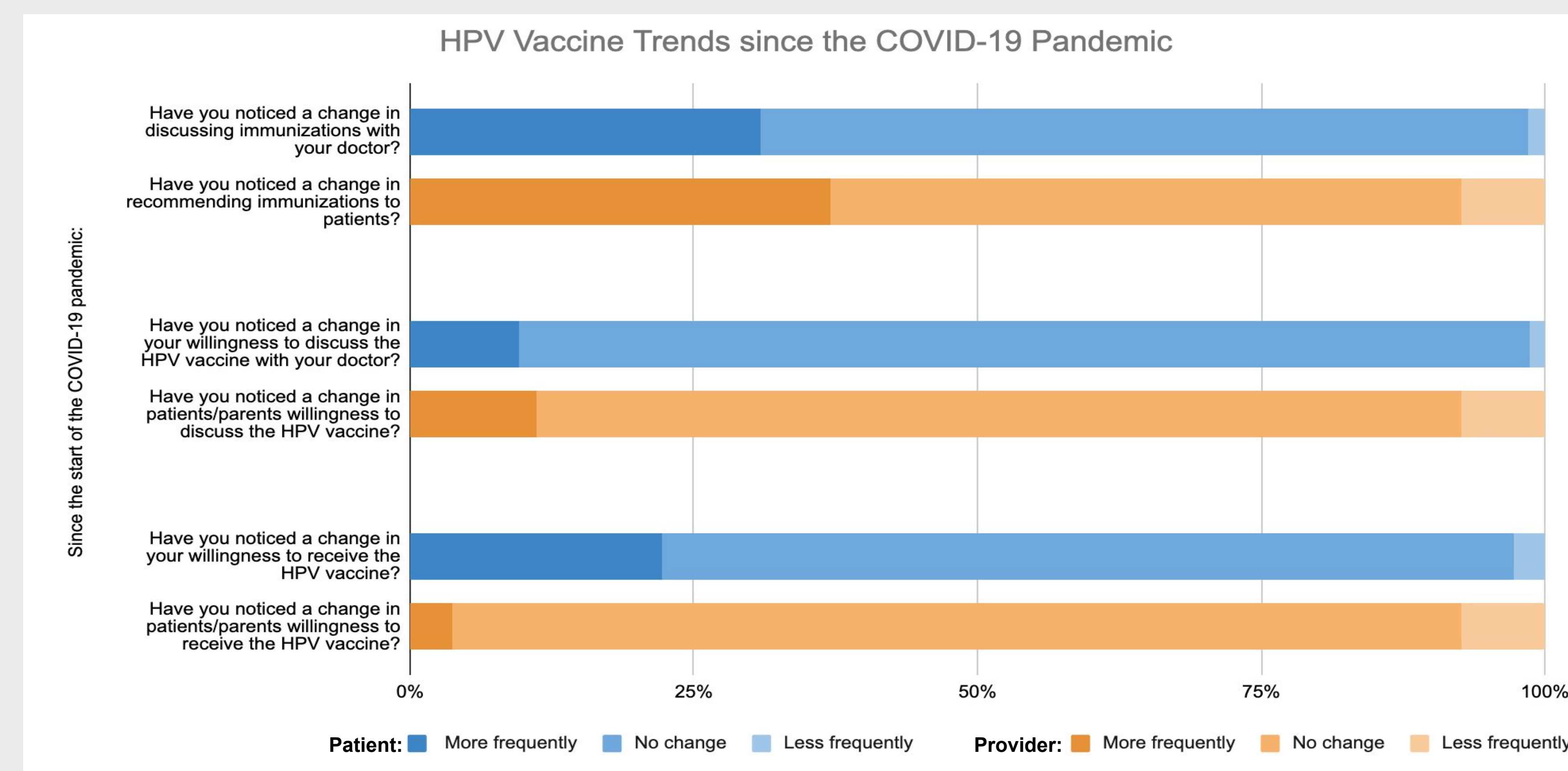


Figure 1: Trends in discussing and receiving HPV vaccine since the COVID-19 pandemic

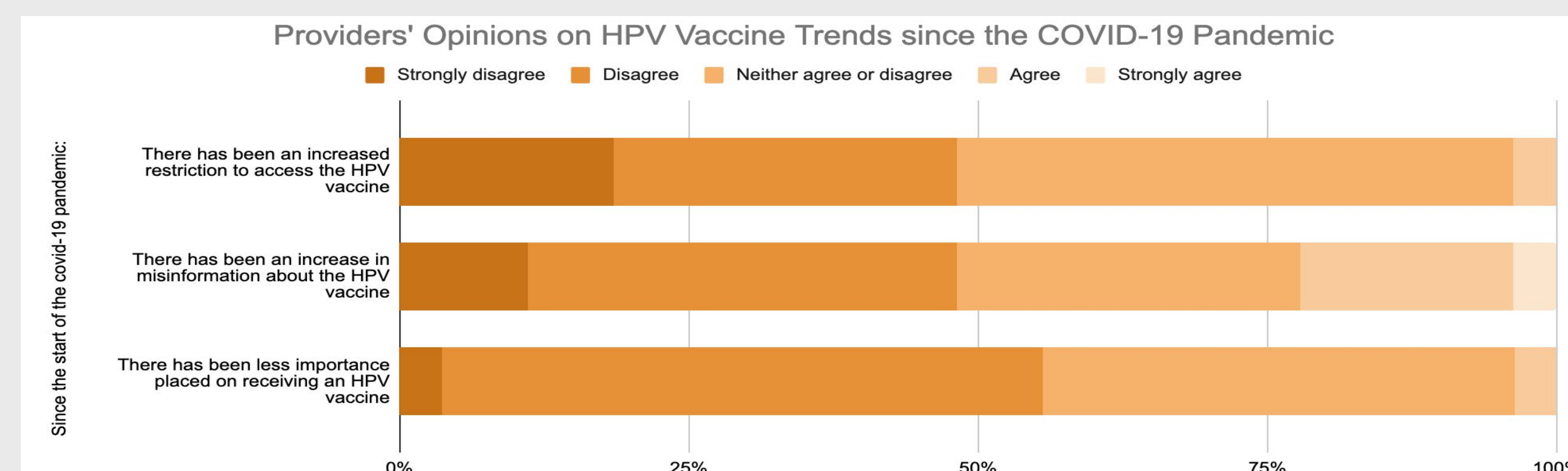


Figure 2: Providers' opinions on HPV vaccine trends since the COVID-19 Pandemic

**Barriers faced by providers in administering the HPV vaccine:** Parent/patient concern about the safety of the vaccine, parent/patient moral opposition to vaccine, and parent/patient concern that HPV vaccine encourages sexual activity were the 3 most common barriers

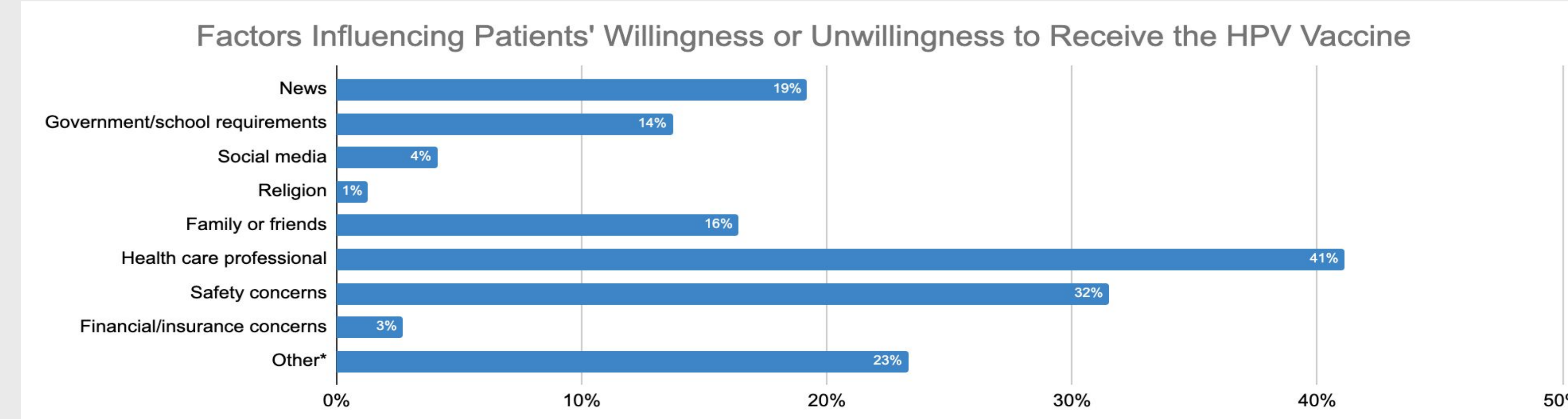


Figure 3: Factors influencing patients' willingness or unwillingness to receive the HPV vaccine

\*10 patients reported none or left the comment field blank, 4 listed age, and other reasons included pain from the vaccine, personal experience, and marriage. The four patients that listed age as a reason were 9, 19, 31, and 38.

## CONCLUSION

- The change in parents and patients' opinions towards the HPV vaccine since the pandemic can be associated with a polarizing climate
- The impact of a low or decreasing HPV vaccine coverage rate in the US has great implications for the prevalence of HPV-related diseases as well as the trust in immunizations more generally
- Understanding trends in vaccine hesitancy will allow further and targeted efforts to increase HPV vaccine uptake

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