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Launching a Human Papillomavirus Vaccination (HPV) Campaign on a College Campus during the COVID-19 Pandemic

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Background: One of the many healthcare disruptions associated with the COVID-19 pandemic has been a reduction in childhood vaccinations, which includes the HPV vaccine. Before the pandemic, HPV vaccination rates in the US were already below targeted values with Mississippi as lowest HPV vaccination rate. *Purpose:* A vaccination campaign was launched at a large public university to increase knowledge around HPV and the HPV vaccine, reduce barriers to vaccination, and increase the number of students vaccinated against HPV. *Methods:* Utilizing a collegiate toolkit, a multidisciplinary team at the University of Mississippi launched an HPV education campaign. Trained student volunteers engaged students in peer-to-peer education and engaged in open dialogue around HPV. *Results:* A total of 112 individuals that attended the events completed a survey with 74.29% indicating they had previously heard of HPV and the vaccine. Approximately half reported having completed the vaccine series. Following the events, 18 individuals received their initial HPV vaccinations. *Conclusion:* This vaccination campaign, a novel approach, empowered students with the knowledge and tools to get vaccinated. HPV vaccination campaigns on college campuses can improve vaccination rates and decrease HPV transmission and cancer risks.

Keywords: human papillomavirus, HPV vaccine, college, vaccination campaign, COVID-19

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It is well documented that one of the healthcare disruptions associated with the COVID-19 pandemic) has been a decrease in childhood vaccinations (DeSilva et al., 2021; Patel, 2021). A reduction in primary-care visits during the pandemic has primarily contributed to the decrease in vaccinations. The primary-care visits have results due to several factors such as limited access resulting from reduced clinic hours of operation, fear of contracting COVID-19 during a visit, and potentially decreased enforcement of vaccination requirements for school attendance (Patel, 2021). Vaccine hesitancy associated with COVID-19 is another factor that could play a role in the reduction of routinely recommended vaccinations. Regardless of influencing factors, there has been a reduction in routine childhood vaccinations across the spectrum, which includes a reduction in human papillomavirus (HPV) vaccinations, a highly effective vaccine recommended for all individuals 9-26 and up to 45 years for some individuals (Meites, 2019).

Healthy People 2030 has a target of vaccinating 80% of adolescents with the HPV vaccine series (Office of Disease Prevention and Health Promotion [ODPHP], n.d.). Although HPV vaccination rates have improved, the US is well below this target with only 54.2% of adolescents receiving all recommended doses in 2019. Mississippi had the lowest HPV vaccination rate, with only 30.5% of adolescents receiving all recommended doses (America's Health Rankings, n.d.).

The COVID-19 pandemic is anticipated to have long-term impacts on HPV vaccination rates (Gilkey et al., 2020). Due to the COVID-19 pandemic, opportunities for provider communication around the perceived sensitive subject of HPV have been reduced, and the HPV vaccine quality improvement projects by healthcare systems have been deprioritized (Gilkey et al., 2020). COVID-19 factors limiting access to the HPV vaccine have been predicted to have a significant negative impact on the incidence of HPV-related cancers and genital warts in the US for years to come (Dangacioglu et al., 2021; Daniels et al., 2021). As a result, novel approaches are warranted to improve HPV vaccination rates during the COVID-19 pandemic.

College students present a unique opportunity for catch-up HPV vaccination, and most new HPV infections occur among late teens and young adults (National Foundation for Infectious Diseases, 2019). The transition of a young adult from home to college is likely their first time to make their own health care decisions (Nicoteri & Arnold, 2005). Utilizing a collegiate HPV vaccination toolkit developed by Project HPV-Free, a collaborative group of Indiana HPV stakeholders, our team launched an HPV vaccination campaign during the Fall 2021 semester at **withheld during review**.

The **withheld during review** campaign focused on educating college students at a large public university on HPV and the HPV vaccine, reducing barriers to vaccination, and increasing the number of students vaccinated against HPV. The campaign was led by a multidisciplinary team comprised of faculty from the School of Pharmacy, Public Health, and Student Health Center along with a representative from the campus' American Cancer Society student chapter. Prior to

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launching the campaign, the leadership team recruited student volunteers by soliciting students from the graduate public health program, professional pharmacy program, and undergraduate students involved in the American Cancer Society student chapter. Approximately 30 student volunteers underwent training to engage in peer-to-peer education. The volunteer training included basic HPV facts, vaccine specific information, and proven messaging for engaging others in conversations about HPV. A multi-modal advertising effort was employed utilizing branded materials for the campaign including digital flyers distributed via social media and digital billboards on campus, printed flyers placed strategically around campus, and announcements made in Freshmen Experience classes.

The campaign's launch occurred in conjunction with a series of campus-wide student health screening events that were focused on promoting overall student wellness. With efforts already underway on the campus to provide COVID-19 and influenza vaccinations, the team was concerned about student receptiveness to another vaccination event. The larger health-screening events helped alleviate this barrier by potentially increasing foot traffic and creating a healthy space for sexual health dialogue to decrease stigma associated with HPV.

Tabling events occurred during September and October 2021. Volunteers used a prize wheel and giveaways to initiate conversations with students around HPV and offer education to reduce vaccine hesitancy. The campaign addressed three common HPV vaccine barriers: lack of awareness of vaccination status, vaccine access, and vaccine costs. Pharmacists with access to the Mississippi Immunization Information eXchange (MIIX) were available at these events to verify the HPV vaccination status of Mississippi residents instantly. Removing potential barriers limiting access to the HPV vaccine helped move students from education to the action of receiving the vaccine; the vaccine was available at the Student Health Center Pharmacy on campus. Further, students could scan a QR code and make an appointment at the Student Health Pharmacy to receive their vaccine. To improve compliance, students would receive a reminder email one day prior to their appointment and a text message one hour prior to their scheduled appointment. Students with health insurance could also walk up to the pharmacy at any time and receive the vaccine with little or no copays associated with the vaccine. For those students that were uninsured or underinsured, the Student Health Center assisted with obtaining the vaccine through a patient assistance program.

Students who approached the table were asked to scan a QR code to complete a survey. Although more students approached and interacted with the volunteers at the table, a total of 112 students completed the survey. Of those, 74.29% had previously heard of HPV and the HPV vaccine. Less than half (48.57%) indicated that they had completed the HPV vaccination series. To track the number of HPV vaccines administered after the events, anyone who presented at the Student Health Center Pharmacy to receive an HPV vaccine was asked to scan a QR code and

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complete a brief survey. Following the initial events, eighteen individuals presented to the pharmacy and received their initial HPV vaccination.

Future educational opportunities will seek to engage various student groups (i.e., Greek life, athletics, minority organizations, underserved populations, etc.) and expand this initiative to other college campuses. Through these continued efforts we hope to improve HPV vaccination rates across Mississippi despite the many obstacles associated with and exacerbated by COVID-19.

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