

# Impact of the COVID-19 Pandemic on Administration of Adult Vaccinations

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The COVID-19 pandemic has profoundly impacted the provision of adult vaccinations, with significant decreases in administration of non-influenza routine adult vaccinations. Arguably, the vaccines experiencing the greatest decline are those for hepatitis A, hepatitis B, and human papillomavirus. Interdisciplinary approaches are critical to improving administration rates of vaccine-preventable disease.

## Introduction

The COVID-19 pandemic has created many challenges for health care providers and consumers. Perhaps one of the most critical challenges is the provision of routine vaccinations in the adult population. A recent analysis indicated that, compared to 2019, non-influenza vaccination rates plummeted during the pandemic in 2020 by > 60% in adults aged 19-49 years and 83% in adults aged 65 years and older [1]. The results of COVID-19 overshadowing provision of routine vaccinations could be catastrophic, especially in high-risk populations [2]. The majority of adults receive their vaccinations at their community pharmacy or their doctor's office. The implementation of virtual visits, impact of stay-at-home orders, and a general fear of being in public are all COVID-19-related factors that have significantly impacted provision of routine vaccinations in the adult population. It is imperative that we refocus our efforts on adult vaccinations to reduce the risks of vaccine-preventable disease. A review of several non-influenza routine adult vaccinations that are commonly overlooked is one tool for assisting health care providers in refocusing on immunizations.

## Hepatitis A

The vaccine-preventable hepatitis A virus is a highly contagious liver infection transmitted via the fecal-to-oral route. The Centers for Disease Control and Prevention (CDC) reported an estimated 850% increase in incidence of hepatitis A between 2014 and 2018 [3]. More specifically, the rate per 100,000 North Carolinians jumped from 0.3 in 2017 to 1.0 in 2018 [3]. Anyone can receive the hepatitis A vaccine, which is given as a 2-dose series. Depending on the brand of vaccine, the first dose is given at baseline, or 0, and the second dose is given either 6-12 or 6-18 months after the first dose. It is also available in conjunction with the

hepatitis B vaccination given as a 3-dose series at 0, 1, and 6 months [4]. There are several groups at higher risk of contracting the virus. The following are examples of at-risk groups identified by the CDC: those with chronic liver disease or HIV infection, drug users, people who are homeless, men who have sex with men, international travelers, and those working with the hepatitis A virus [5].

## Hepatitis B

The vaccine-preventable hepatitis B virus is a contagious liver disease typically transmitted via blood or other bodily fluids. In 2018, over half of acute hepatitis B infections occurred in adults aged 30-49 years, with the most common risk factor reported as injection drug use [5]. Depending on the brand, the hepatitis B vaccine can be given alone as a 2-dose series given at least 4 weeks apart, or a 3-dose series given at 0, 1, and 6 months. It is also available in conjunction with hepatitis A given as a 3-dose series at 0, 1, and 6 months [4]. The hepatitis B vaccine is available to anyone who desires protection from the infection, but the following groups have been identified by the CDC as at-risk groups that should receive the vaccine: those with chronic liver disease or HIV infection, injection drug users, incarcerated individuals, international travelers, and those at risk for exposure to blood [4]. One subgroup at risk due to blood exposure is diabetics. There are several social determinants of health that increase risk to diabetics, including but not limited to poverty, lack of education, unemployment, lack of health insurance, lack of reliable transportation, and lack of a supportive social network [6]. These social determinants are often the underlying causes of sharing glucose meters without properly sanitizing before each use, using the same fingerstick device for more than one person, sharing insulin pens or syringes amongst individuals, and lack of proper hand hygiene and/or failure to wear gloves between fingerstick procedures [6]. According to 2019 statistics, an estimated 12.9% of North Carolinians have diabetes,

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thus creating many opportunities for administration of the hepatitis B vaccine [7]. Though most vaccinations are recommended by default for all groups of patients, the CDC's Advisory Committee on Immunization Practices (ACIP) has recommended that, for several vaccines, providers engage patients in shared clinical decision-making (SCDM) [8]. The process of SCDM involves providers and patients discussing the risks versus benefits of a vaccine specifically in the context of that patient, thus making a joint decision about whether or not to vaccinate [9]. It is important to note that

shared clinical decision-making is recommended for diabetic patients aged 60 and older [4].

### **Human Papillomavirus (HPV)**

HPV is a viral infection that can lead to some types of cancer as well as the growth of warts on the skin or mucous membrane. There are more than 100 HPV infections, which most commonly are transmitted via sex or other skin-to-skin contact [10]. Traditionally, the HPV vaccination series has been targeted toward the pediatric population as opposed

to the adult population. However, in 2018, the FDA reviewed data from studies in older individuals and subsequently expanded the age of approved use in men and women to include those aged 27-45 years [11]. Subsequently, in 2020, the FDA approved HPV vaccination for the prevention of HPV-related oropharyngeal and other head and neck cancers [12]. Recent data indicates that HPV-related oropharyngeal cancer has surpassed cervical cancer as the most common HPV-related cancer [13]. Though SCDM is currently recommended for individuals aged 27-45 years, the expanded approval for HPV-related oropharyngeal and other head and neck cancers creates many opportunities to

increase HPV vaccination rates. Dosing of the HPV vaccine is highly dependent upon previous doses received during adolescence; therefore, health care providers should review an individual's previous vaccination history to determine appropriate administration [4].

### **Conclusion**

As we continue to face the COVID-19 pandemic, it is of utmost importance that health care providers do not lose sight of the importance of the provision of non-influenza routine adult vaccinations. As previously discussed, many opportunities exist in our state, as well as our nation, to pro-

vide hepatitis A, hepatitis B, and HPV vaccines. However, other non-influenza routine adult vaccinations, such as measles, mumps, and rubella (MMR); meningococcal ACWY (MenACWY); meningococcal B (Men B); pneumococcal polyvalent (Pneumovax 23); pneumococcal conjugate (Prevnar 13); tetanus, diphtheria, and pertussis (Tdap); varicella (VAR); and zoster (RZV) are important and should be given when indicated. Perhaps now more than ever, it is critical to utilize interdisciplinary approaches to boost efforts in increasing adult vaccination rates. For example, teamwork between dentists and pharmacists could help increase HPV vaccination rates and subsequently prevent head and neck cancers. Additionally, pharmacists and doctors could work together on ensuring diabetic patients get their hepatitis B series, thus helping prevent liver disease. An interdisciplinary approach is going to be the key to increasing vaccination rates despite the COVID-19 pandemic. **NCMJ**

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