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Assessment of Pediatric Dental Providers Interest and Comfort in Providing Vaccines in the Dental Office

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BACKGROUND

Following the 2020 Covid-19 pandemic, there has been continued discussion on the scope of practice of dentists in regards to the delivery of vaccines. Part of the job of dental health professionals is to provide their patients with education on their oral health and disease prevention. With Human Papillomavirus associated oropharyngeal cancers on the rise, there is an opportunity for dentists to provide their patients with more than just education. With most US states allowing dentists to provide the Covid-19 vaccination, there are questions as to whether dental providers should offer more types of vaccinations in their office as an opportunity to expand their scope of practice and offer increased access to care for patients. [1]

Many factors may influence a provider's comfort and willingness to provide vaccines in their office. Some of the factors we are looking to explore in this study include whether providers want to provide vaccines in their office, which vaccines providers would be willing to provide such as seasonal vaccines like Covid-19 or influenza, oral related vaccines such as HPV or Hep A, or all childhood vaccines such as MMR, Pneumococcal or Hep B. Other factors include what type of practice the provider works in, such as a public health setting or a private practice. Additionally, how many years the provider has been practicing as well as the location of the provider (if other health professionals are easily accessible) [3]

Vaccines are designed to protect individuals and communities from the spread of infectious diseases. Vaccines play a crucial role in public health by preventing disease spread, increasing herd immunity, eradicating disease, and reducing possible complications associated with disease as well as other added community benefits such as protecting vulnerable populations. Vaccines work by allowing the body's immune system to recognize and fight specific pathogens without causing the disease itself. (4)

Childhood vaccines are a critical part of preventative healthcare. Parents and caregivers are encouraged to follow the recommended vaccination schedules for their children in order to maximize the benefits. The vaccine schedule is administered according to the recommendations of the Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO). Childhood vaccinations typically start being administered at birth for certain vaccines and multiple doses are often needed for full benefit. Vaccines that are recommended include Hepatitis B (HepB), Rotavirus (RV), Diphtheria/Tetanus/Pertussis (DTaP), Haemophilus influenzae type b (Hib), Pneumococcal Conjugate (PCV13), Inactivated Poliovirus (IPV), Measles/Mumps/Rubella (MMR), Varicella (chickenpox), Hepatitis A (HepA), Influenza (Flu), Meningococcal, Human Papillomavirus (HPV), and Covid-19. (6) While some of these vaccines are only administered during childhood, others are annual and require vaccinations every year.

The HPV vaccine is of particular interest to dentists due to its implications in oral health. HPV is linked to oropharyngeal cancers that affect the back of the throat including the base of the tongue and tonsils. It is typically recommended for preteens (11-12 years old) but can be given later if never received. (5) By giving pediatric dentists the option to offer this vaccine, it could broaden access for pediatric patients and prevent oral disease development.

The flu vaccine is recommended annually for everyone 6 months and older. The Covid-19 vaccine is recommended for children 6 months or older, though the schedule depends on the specific vaccine. Parents may not bring their kid to the pediatrician for annual check-ups if they are not sick but may still come for their dental cleanings, in which case offering the flu or covid vaccine could provide the parents with another convenient option to get their child vaccinated.

Currently there is limited education in dental school on the implementation of vaccines for dentists. While the biology and importance of vaccines is stressed during the first two didactic years of dental school, less education is provided in terms of administering various vaccines as well as safe storage required for providing vaccines.

Objectives

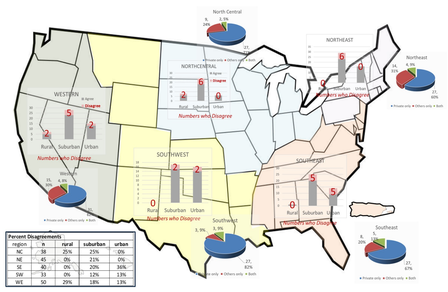
- The purpose of the study is to gather data from pediatric dentists and residents to determine whether vaccines should be offered in pediatric dental offices
- The objective is to determine whether pediatric dentists are interested in offering vaccines in their practices, which vaccinations and if more education is needed for providers before offering vaccines

METHODS

- The study was designed as an electronic survey which included 14 multiple choice and open-ended questions. The survey was distributed by email using the American Academy of Pediatric Dentistry (AAPD) membership email list. Answers were collected using the SurveyMonkey platform (www.surveymonkey.com).

DATA RESULTS

"Everyone should receive vaccines" - Numbers and Percent disagreement By Types and Groups of Respondents



Percent Disagreements

region	N	rural	suburban	urban
NC	38	25%	25%	0%
NE	45	0%	21%	0%
SE	40	0%	20%	36%
SW	33	0%	12%	13%
WE	50	29%	18%	13%

Figure 1. Map of the US shows a break down by region, practice location, practice type and whether the respondent believes everyone should receive vaccines (apart from those with prohibiting medical conditions)

Which category of vaccines would you consider offering?

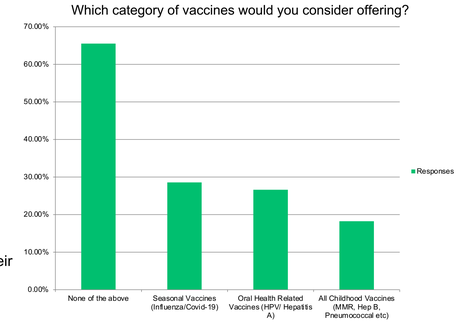


Figure 2. Which category of vaccine providers would consider offering in their practice

Which vaccines do you NOT feel comfortable providing?

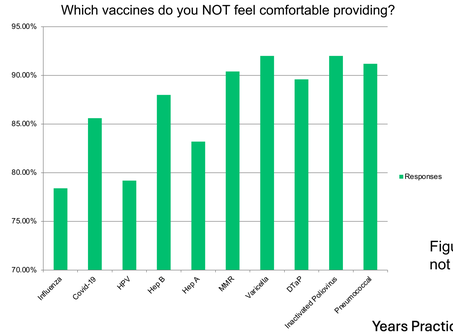


Figure 3. Specific vaccines providers do not feel comfortable offering

Years Practicing and Comfort Offering Vaccines

	Total	None	Pctg none	Seasonal	Seasonal-Oral	Seasonal-Oral-Ch Vaccs	Oral Health only	Childhood only	Total Yes	Pctg Yes
00-05 years	14	8	57%	0	2	1	1	2	6	43%
06-10 years	21	12	57%	1	2	3	1	1	8	38%
11-15 years	29	21	72%	0	1	6	0	0	7	24%
16-20 years	22	15	68%	2	1	2	0	2	7	32%
21-25 years	40	25	63%	3	5	2	1	1	12	30%
26 years or longer	60	43	72%	2	5	8	0	1	16	27%
In residency	19	6	32%	1	4	6	2	0	13	68%
No longer practicing	4	3	75%	0	0	1	0	0	1	25%
Total	209	133	64%	9	20	29	5	7	70	33%

Figure 4. Number of years practicing and comfort in providing various categories of vaccines

Do you feel you need further education before providing vaccinations in your practice?

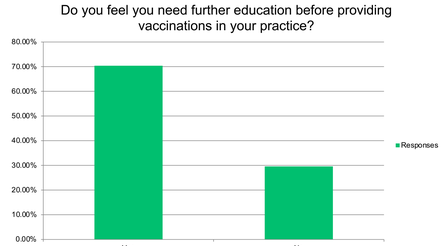


Figure 5. Number of participants who feel the need for further education before considering offering vaccines

DISCUSSION

- 218 responses collected/ 8155 emails sent accounts for a 2.7% response rate
- Respondents were mainly pediatric dentists working in private practice (76%) followed by hospital- based clinics and academic institutions (both at 12.3%)
- 58.9% of respondents practice in a suburban area, 31% in urban and 9.6% in rural
- 26% of respondents have been practicing for 10 years or less, 72.2% have been practicing 11 years or more, 1.8% were retired
- 96.3% agreed that there is scientific proof that immunizations prevent infectious disease, with only 3.4% in disagreement
- 81.8% believed that everyone should be receiving the recommended vaccines, excluding those with prohibited medical conditions, 18.3% did not agree (Figure 1)
- 69.23% were not interested in offering vaccines, with only 30.7% responding that they would consider it. This was statistically significant (p-value =0.00013).
- 65.5% responded that they would not consider any vaccine and 28.57% reported they would consider seasonal vaccines, 26.6% considering oral health related vaccines and less than 20% considering all childhood vaccines (Figure 2)
- People felt the most comfortable providing Flu and HPV out of the options given but still with a majority (78% and 79%) not feeling comfortable providing them. 80% - 92% felt uncomfortable providing all other vaccines (Figure 3)
- Majority did not feel comfortable offering vaccines regardless of the numbers of years practicing, except for residents. 68% of those in residency responded that they would be willing provide some, if not all vaccines (Figure 4)
- 74.8% of participants felt that they did not receive adequate education in dental school to provide vaccines currently and 70.4% responded that they were need further education before considering providing vaccines in their office. This was statistically significant (p-value=0.000012). (Figure 5)
- Providers stated a wide range of reasons for not wanting to offer vaccines ranging from storage, ordering and supply, disbelief in vaccines, need of more research, fear of over-immunizing, billing and coverage, children associating the dentist with injections, lack of time, but the reasons stated most frequently mentioned the pediatrician, both it being a pediatrician's job (not the dentist) and not wanting to offend or compete with the pediatrician
- Limitations to this study include the number of participants/low response rate

KEY POINTS

•Majority of pediatric dentists are not interested in offering any type of vaccine in the dental office, regardless of the category (seasonal, oral health related or childhood)

•Those practicing 10 years or less were more willing to consider offering vaccines but the majority across all years (with the exception of current residents) were not interested

•Majority feel that dental schools do not offer adequate education to be able to provide vaccines currently

•Majority feel that more education would be needed before being willing to consider offering vaccines

REFERENCES

1. Duong ML, Villa A, Patton L, Frazier K, Khajotia S, Kumar P, Urquhart O; Council on Scientific Affairs. Dentist-administered vaccines: An American Dental Association Clinical Evaluators Panel survey. J Am Dent Assoc. 2022 Jan;153(1):86-87.e2. doi: 10.1016/j.adaj.2021.10.012. PMID: 34996534; PMCID: PMC8730759.
2. Rojas-Ramirez MV, DeVito DM, McKee JW, Miller CS. Empowering dentists to administer COVID-19 vaccines. J Public Health Dent. 2022 Jun;82(3):338-344. doi: 10.1111/jphd.12502. Epub 2022 Jan 19. PMID: 35043412.
3. Shukla A, Welch K, Villa A. Assessment of the willingness of dentists in the state of Indiana to administer vaccines. PLoS One. 2022 Apr 19;17(4):e0267167. doi: 10.1371/journal.pone.0267167. PMID: 35439280; PMCID: PMC9017890.
4. Younger DS, Younger AP, Guttmacher S. Childhood Vaccination: Implications for Global and Domestic Public Health. Neurol Clin. 2016 Nov;34(4):1035-1047. doi: 10.1016/j.ncl.2016.05.004. Epub 2016 Aug 18. PMID: 27719987.
5. Petrosky E, Bocchini JA Jr, Hariri S, Chesson H, Curtis CR, Saraiya M, Unger ER, Markowitz LE; Centers for Disease Control and Prevention (CDC). Use of 9-valent human papillomavirus (HPV) vaccine: updated HPV vaccination recommendations of the advisory committee on immunization practices. MMWR Morb Mortal Wkly Rep. 2015 Mar 27;64(11):300-4. PMID: 25811679; PMCID: PMC4584883.
6. https://www.cdc.gov/vaccines/schedules