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EDITORIAL

Oral health care providers should be administering vaccines



Oral health care providers have an important role to play in not only encouraging our patients to get vaccinated but also in actually administering vaccines. Admittedly, this is not something that previously rose to the level of my professional consciousness, and it unfortunately took the coronavirus disease 2019 (COVID-19) pandemic to evolve my way of thinking about my chosen profession. Fortunately, there are oral health and public health professionals, including in the reading audience of this journal, who are prescient and much better informed than I will ever be, who previously recognized the valuable if not essential role that we can individually and collectively play in ensuring our patients are vaccinated.

In October 2020, the American Dental Association House of Delegates passed Resolution 91H-2020, which states that "dentists have the requisite knowledge and skills to administer critical vaccines that prevent life- or health-threatening conditions and protect the life and health of patients and staff at the point of care." In the United States, Minnesota, Illinois, and Oregon currently permit dental practitioners to administer vaccinations; these laws actually predated the pandemic. In November 2020, Arkansas passed a law allowing dentists to administer the COVID-19 vaccine. However, Oregon remains the only state that permits dentists to administer any vaccine.² Perhaps after cutting through the red tape, politics, and professional territorialism, additional governing bodies will recognize the important role that oral health professionals can play in mitigating communicable disease, not just COVID-19 or influenza.

There are several vaccine-preventable diseases that readers of this journal continue to encounter in clinical practice and may be called upon to diagnose and/or treat. Mumps, measles, chicken pox, herpes zoster (shingles), condyloma acuminatum, and oropharyngeal squamous cell carcinoma are just some examples that come to mind. Gardasil 9 is the only human papillomavirus (HPV) vaccine available for use in the United States.³ The beneficial effects of this vaccine are well established and without dispute. In June 2020, the Food and Drug Administration expanded the indication for this vaccine to include prevention of oropharyngeal and other head and neck cancers.⁴

Should oral health care providers routinely ask their young patients whether they have been vaccinated against HPV? In my opinion, the answer is an

unambiguous "yes." Are we not among the best trained professionally to provide patients with the information they need to make informed decisions about the benefits of HPV vaccination? In my opinion, the answer remains an unambiguous "yes." Should oral health care providers be enlisted to help administer HPV vaccines to their patients? In my opinion, the answer needs to also be "yes". Yet, there are certainly some headwinds that remain to be overcome before this becomes a part of routine clinical practice.

Vaccine hesitancy is defined by the World Health Organization (WHO) as "reluctance or refusal to vaccinate despite the availability of vaccines." In 2019, the WHO listed vaccine hesitancy as one of the top 10 threats to global health. In 2020, earning public trust to combat vaccine misinformation was included in the WHO's list of 10 most urgent health challenges of this current decade. The reasons for vaccine hesitancy are certainly complex and may even include biases introduced by health care practitioners. Nonetheless, inadequate health literacy accompanied by the influence of social media has helped to fuel the rampant misinformation about vaccines, and this is clearly a global problem.

Jamison et al. ⁷ mined Twitter over a 3-year period from 2014 to 2017 searching for vaccine-related keywords. The authors identified 1.8 million relevant tweets, of which 22% were anti-vaccine messages. These tweets were blatantly misleading but being presented as factual information by contributors with official-sounding names, or they represented amplification of extremely rare side effects, or they conveyed outright conspiracy theories associated with vaccination. ⁷ Misinformation about vaccines is also prevalent on an array of other social media platforms. ⁸

Practitioner trust has been consistently demonstrated to be a key driver of vaccine acceptance. Yet, one national study found that only 23% of 1209 surveyed parents expressed comfort in their child receiving the HPV vaccine from a dentist, with 36% of respondents stating that dentists should not be administering vaccinations. Conversely, in Minnesota, where dentists are allowed to administer vaccines, 66.4% and 72.6% of surveyed parents felt that dentists were qualified to counsel their patients about HPV and administer the HPV vaccine, respectively. Similarly another study found that of parents who brought their child to a pediatric oral health care center, 79% stated

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that they would permit their child to be vaccinated by their dentist. 12

The influence of health professionals' beliefs is also a key determinant of vaccine acceptance. In a study of Oregon dental practitioners, 80% of respondents supported the notion that providers should discuss preventive medical care with their patients.¹³ However, only 54% said they should discuss vaccinations specifically. Oregon is a state in which dentists are permitted to vaccinate. This practitioner hesitancy appears to extend to students-in-training. In a study of 109 dental students, 56% reported hesitancy in recommending the HPV vaccine, although the majority believed that HPV prevention is within their scope of practice. ¹⁴ A separate study of dental and dental hygiene students across 15 US-based schools found that participants who perceived that administering the HPV vaccine was within the scope and role of a dental professional were almost 6 times more likely to be willing to administer the vaccine compared to students who did not believe that it was in the scope of their future practice.¹⁵

As oral health care specialists individually, and our respective professional organizations collectively, we need to mobilize and be more outward facing in not only encouraging our patients to vaccinate but also in advocating for being at the front lines administering vaccinations. Whether it is a COVID-19 vaccine, the HPV vaccine, the flu vaccine, or even the shingles vaccine, we are well positioned to create resilience against vaccine misinformation, and we must join the chorus of medical colleagues and public health officials in amplifying the benefits of vaccination. Though it took a pandemic for me to come to this realization, I sincerely hope that this understanding will be weaved into the educational fabric for the next generation of oral health care practitioners, and before the next pandemic.

Faizan Alawi, DDS Section Editor, Oral Pathology

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REFERENCES

- Solana K. ADA supports efforts allowing dentists to administer vaccines. Available at: https://www.ada.org/en/publications/adanews/2020-archive/october/ada-supports-efforts-allowing-dentists-to-administer-vaccines. Accessed December 8, 2020.
- Oregon State Legislature. Available at: https://olis.leg.state.or. us/liz/2019R1/Measures/Overview/HB2220. Accessed December 8, 2020.
- Human papillomavirus (HPV) vaccines. Available at: https://www. cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/ hpv-vaccine-fact-sheet. Accessed December 8, 2020.
- United States Food and Drug Administration. Available at: https:// www.fda.gov/media/138949/download. Accessed December 8, 2020
- World Health Organization. Ten threats to global health in 2019. Available at: https://www.who.int/news-room/spotlight/tenthreats-to-global-health-in-2019. Accessed December 9, 2020.
- World Health Organization. Urgent health challenges for the next decade. Available at: https://www.who.int/news-room/ photo-story/photo-story-detail/urgent-health-challenges-for-thenext-decade. Accessed December 9, 2020.
- Jamison A, Broniatowski DA, Smith MC, et al. Adapting and extending a typology to identify vaccine misinformation on Twitter. Am J Public Health. 2020;110:S331-S339.
- Jamison AM, Broniatowski DA, Dredze M, Wood-Doughty Z, Khan D, Quinn SC. Vaccine-related advertising in the Facebook ad archive. *Vaccine*. 2020;38:512-520.
- Feemster KA. Overview: special focus vaccine acceptance. Hum Vaccin Immunother. 2013;9:1752-1754.
- Lazalde GE, Gilkey MB, Kornides ML, McRee AL. Parent perceptions of dentists' role in HPV vaccination. *Vaccine*. 2018;36:461-466.
- Stull C, Freese R, Sarvas E. Parent perceptions of dental care providers' role in human papillomavirus prevention and vaccine advocacy. J Am Dent Assoc. 2020;151:560-567.
- Dean TC, Gilliland AE, Cameron JE. Parents' receptiveness to oral health clinic—based vaccination. *Vaccine*. 2020;38:4226-4229.
- Naleway AL, Henninger ML, Waiwaiole LA, Mosen DM, Leo MC, Pihlstrom DJ. Dental provider practices and perceptions regarding adolescent vaccination. *J Public Health Dent*. 2018;78:159-164.
- 14. Torres E, Richman A, Wright W, Wu Q. Assessing dental students' HPV health literacy and intention to engage in HPV-related oropharyngeal cancer prevention [e-pub ahead of print. *J Cancer Educ.* 2020. https://doi.org/10.1007/s13187-020-01905-z. Accessed December 9, 2020.
- Kepka D, Rutkoski H, Pappas L, et al. US oral health students' willingness to train and administer the HPV vaccine in dental practices. *Prev Med Rep.* 2019;15:100957.