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# Commentary COVID-19 Vaccines for Adolescents: Leveraging the ABCs of Communication



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Although approximately 70% of the United States (U.S.) population over 12 years of age has received at least one dose of a COVID-19 vaccine dose as of this writing [1], vaccine access and hesitancy still present barriers to achieving higher vaccination rates. The rapid spread of health misinformation via social media is compounded by institutional racism and lack of equitable access to healthcare, which has negatively influenced the receipt and acceptance of COVID-19 vaccines within minoritized communities which have been hardest hit by the virus.

Current efforts to improve vaccine confidence have mostly focused on adults who exhibit the highest rates of hesitancy. Although the Pfizer-BioNTech COVID-19 vaccine is authorized for adolescents aged 12+ in the U.S., less emphasis has been placed on efforts to improve vaccination rates for this population. Although 50% of adolescents are unconditionally willing to receive a COVID-19 vaccine, only 29% of caregivers would get a child 12–15 years of age vaccinated right away [2,3]. Thus, more must be done to reach caregivers as well as the 30% of adolescents who are hesitant about receiving a vaccine [2]. Doing so may also address pandemic-related health disparities, as black adolescents are approximately three times more likely than their white counterparts to indicate unwillingness to receive the vaccine [2]. In this commentary, we outline a framework to address misinformation and vaccine confidence both online and offline to maximize uptake of COVID-19 vaccines among adolescents.

# The ABCs for Adolescent COVID-19 Vaccine Communication

Facilitating COVID-19 vaccine uptake among adolescents will require approaches from multiple fronts. To guide clinicians and researchers, we suggest the ABCs of vaccine communication:

(A)ctive on Social Media: Prior research suggests that exposure to misinformation on social media reduces vaccination intent [4]. Furthermore, adolescents spend considerable time on social media, and research suggests that many discuss COVID-19 on the social media platform TikTok [5,6]. Correcting health misinformation on social media-particularly by experts-may be effective in reducing the belief of health misinformation [7]. Thus, it would be valuable for clinicians to promote COVID-19 vaccination and counter misinformation on social media. To do so effectively, clinicians need to be trained in social media and risk communication best practices [8,9], and supported in terms of time, pay, and culture of the health system or medical employer. It may be valuable to partner with social media influencers and leverage their considerable reach, as research suggests that local social media influencers may positively affect attitudes toward flu vaccination [10]. Finally, clinicians can share social media posts from local influencers, such as teachers, faith leaders, and adolescents who have taken part in clinical trials for the vaccines, to amplify their stories about the importance of receiving a COVID-19 vaccine and why they chose to do so.

Additionally, being active on social media can help clinicians and researchers conduct real-time infoveillance—observing trending misinformation but also topics that may resonate with different audience segments. For example, as part of our ongoing analysis of COVID-19 vaccine Twitter messages, we observed vaccine-hesitant caregivers in a large U.S. city considering vaccination as a facilitator to fully opening schools.

(*B*)uild Trustworthiness: A recent poll that found 75% of caregivers whose child is not yet vaccinated against COVID-19 say the recommendation of their clinician will be an important factor in their decision, yet 50% of adolescent caregivers have not discussed COVID-19 vaccination with their child's clinician [11]. It will be valuable to apply lessons learned from effective patient-

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clinician communication techniques to build trust and trustworthiness around COVID-19 vaccines. For example, there is a robust association between clinician recommendation and human papillomavirus vaccine initiation and completion [12]. When discussing vaccines, exchanges should be authentic, nonjudgmental, and provide adolescents and caregivers time to express their concerns with the clinician demonstrating active listening and empathy. This does not mean that clinicians should agree with or reinforce misinformation, but should instead focus on building trust through human connection and validating vaccine-related concerns. This includes acknowledgement of the centuries of abusive research practices and racist treatment in medical settings that have decreased the trustworthiness of the medical and public health professions as they relate to minoritized communities. Likewise, clinicians should recognize the tremendous value they have on medical decision-making as a result of the trusted relationships they have with their patients and families, which has been associated with patient adherence to recommendations [13]. When possible, clinicians should strive to discuss and educate the entire family together. In the situation where an adolescent wants to receive a vaccine but a caregiver is hesitant, clinicians should be aware of their specific state laws regarding the ability of adolescents to receive a vaccine without caregiver consent.

(C)apitalize on the Strengths of Adolescents: Adolescents are "digital natives" that have grown up with internet access and social media. Because of this, adolescents may turn to their online social networks to search for health-related information. Clinicians can help facilitate this information-seeking by pointing adolescents toward credible sources and disseminating adolescent-oriented online resources. Many adolescents may have already become adept at critically analyzing the information they encounter on social media and can identify misinformation. Given that adolescents' preferred resources for vaccine information are medical organizations and clinicians, it may be valuable for providers to discuss with them sources of health information, how to interpret the information, and how to discuss this information with friends and loved ones. Moreover, encouraging adolescents to be active participants in their healthcare by seeking out and critically analyzing health information can be empowering and help to build trust.

## Conclusion

An oft repeated public health mantra is that "vaccines do not save lives, vaccinations save lives" [14]. Unfortunately, as highlighted by recent events in Tennessee [15], adolescent COVID-19 vaccination has become politicized, further hampering efforts by clinicians to promote COVID-19 vaccination among adolescents. The ABCs of vaccine communication offer a way for clinicians to promote adolescent vaccination during this critical juncture in the pandemic, with case numbers rising and schools re-opening. Lessons learned from these efforts can also inform ongoing adolescent vaccine distribution and health communication efforts.

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#### References

- CDC COVID Data Tracker. Centers for Disease Control and Prevention. COVID Data Tracker: COVID-19 Vaccinations in the United States. Available at: https://covid.cdc.gov/covid-data-tracker/#vaccinations\_vacc-totaladmin-rate-total. Accessed July 24, 2021.
- [2] Brandt EJ, Rosenberg J, Waselewski ME, et al. National study of Youth Opinions on vaccination for COVID-19 in the U.S. J Adolesc Heal 2021;68: 869–72.
- [3] Hamel L, Lopes L, Sparks G, et al. KFF CoOVID-19 Vaccine Monitor: April 2021 [Internet]. 2021 [cited 2021 June 24]. Available at: https://www.kff. org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-apr il-2021/. Accessed May 12, 2021.
- [4] Loomba S, de Figueiredo A, Piatek SJ, et al. Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA. Nat Hum Behav 2021;5:337–48.
- [5] Southwick L, Guntuku SC, Klinger EV, et al. Characterizing COVID-19 Content posted to TikTok: Public Sentiment and Response during the First Phase of the COVID-19 pandemic. J Adolesc Heal 2021;69:234–41.
- [6] Unni Z, Weinstein E. Shelter in Place, Connect online: Trending TikTok Content during the Early Days of the U.S. COVID-19 pandemic. J Adolesc Heal 2021;68:863–8.
- [7] Vraga EK, Bode L. Correction as a Solution for Health Misinformation on Social Media. Am J Public Health 2020;110(S3):S278–80.
- [8] Macauley R, Elster N, Fanaroff JM, et al. Ethical Considerations in Pediatricians' Use of social media. Pediatrics 2021;147. e2020049685.
- [9] Hoffman BL, Colditz JB, Shensa A, et al. #DoctorsSpeakUp: Lessons learned from a pro-vaccine Twitter event. Vaccine 2021;39:2684–91.
- [10] B E, S SM, K C, et al. Social media influencers can be used to deliver positive information about the flu vaccine: Findings from a multi-year study. Health Educ Res 2021;36:286–94.
- [11] C.S. Mott Children's Hospital. Mott Poll Report: More Parent-Provider Communication about COVID Vaccine Needed [Internet]. 2021 [cited July 26, 2021]. Available at: http://mottpoll.org/sites/default/files/document/ 072621\_COVIDVaccine.pdf.
- [12] Oh NL, Biddell CB, Rhodes BE, et al. Provider communication and HPV vaccine uptake: A meta-analysis and systematic review. Prev Med (Baltim) 2021;148:106554.
- [13] Limaye RJ, Malik F, Frew PM, et al. Patient decision making related to Maternal and childhood vaccines: Exploring the Role of trust in providers through a relational theory of Power Approach. Heal Educ Behav 2020;47: 449–56.
- [14] Orenstein W. Vaccines don't save lives. Vaccinations save lives. Hum Vaccin Immunother 2019;15:2786–9.
- [15] Bella T, Villegas P. Tennessee Resumes Nearly All COVID Vaccine Outreach to Minors After GOP Pressure Paused Advocacy. The Washington Post [Internet]. 2021 [Cited July 24, 2021]. Available at: http://washingtonpost. com/health/2021/07/23/tennessee-vaccine-outreach-children-gop/.