



Driving Equitable Pneumococcal Vaccine Adherence: **The Role of Healthcare Providers**



Fast Facts

- ✓ Routine childhood immunizations have made substantial reductions in disease and mortality^{1,2}
- ✓ It is important to adhere to Centers for Disease Control and Prevention (CDC)-recommended vaccination schedules
- ✓ Certain populations demonstrate disproportionately lower vaccination adherence³
- ✓ The factors that influence vaccine uptake are complex^{4,5}
- ✓ Healthcare Providers (HCPs) are the number one source for vaccination information⁶
- ✓ There are many strategies HCPs can implement to help improve vaccine adherence and address disparities

The United States has demonstrated significant reductions against vaccine-preventable diseases due to routine childhood immunizations



Vaccines are among the greatest advances in global health and development. —UNICEF

Childhood immunization is one of the greatest public health success stories, resulting in dramatic reductions in vaccine-preventable diseases like smallpox, polio, measles, and pneumococcal disease in the US and worldwide. The need for routine childhood vaccination continues to be a priority in the US, as illustrated by the recently updated Healthy People 2030 goals. Issued jointly by the US Department of Health and Human Services (HHS), Office of Disease Prevention and Health Promotion, and OASH, these goals include a number of objectives focused on improving vaccination rates and maintaining or improving reductions in vaccine-preventable diseases. However, despite the broad success of the immunization program in the US, underserved communities may not receive the full benefits of immunization due to lower vaccine uptake. The reasons for existing pockets of undervaccination are complex and influenced by Social Determinants of Health such as geographic, socioeconomic, and racial/ethnic barriers of access to care. While the Vaccines for Children (VFC) program can provide vaccines at no cost to eligible* children who might not otherwise be vaccinated because of inability to pay, there may be a lack of caregiver awareness of this federally funded program. In addition, vaccine hesitancy is on the rise while the risks associated with vaccine-preventable diseases are perceived as low, further contributing to delays in broad vaccination coverage. The impact of the COVID pandemic has only further exacerbated these longstanding gaps in care. However, we at Pfizer believe that through evidence-based recommendations, education, partnerships, and community engagement we can help improve health outcomes for all children. In this brochure, we provide an overview of relevant data to highlight existing disparities in pneumococcal vaccination rates and propose strategies for healthcare professionals and public health advocates to use in order to help improve immunization rates among their communities.^{1,2,5,7,8}

*A child is eligible for the VFC Program if he or she is younger than 19 years of age and is one of the following: Medicaid-eligible, Uninsured, Underinsured, American Indian or Alaska Native.
OASH = Office of the Assistant Secretary for Health



Healthy People 2030 Target: Reduce the proportion of children who get no recommended vaccines by their second birthday⁹

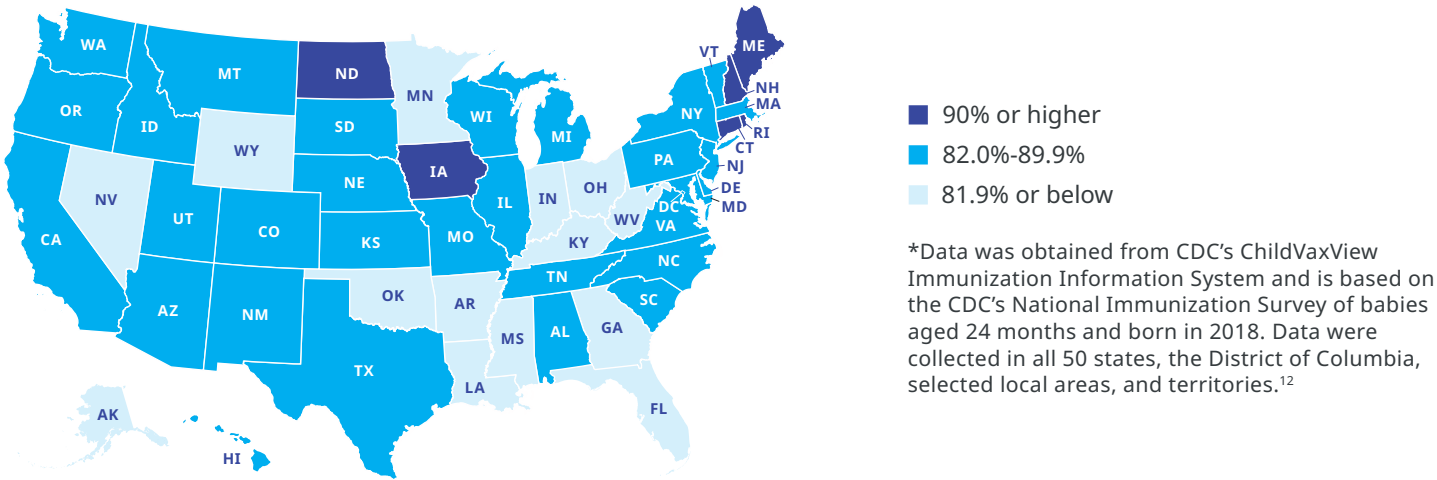
While most children receive their recommended vaccines, children in certain populations are less likely to get all the vaccines they need, leaving them at greater risk for pneumococcal disease

PCVs are recommended to be administered as a 4-dose series at **2, 4, 6, and 12–15 months of age**—but only **58.4%** of children aged 19 months of age had received their pneumococcal conjugate vaccine (PCV) series according to the recommended schedule in 2017^{10*}

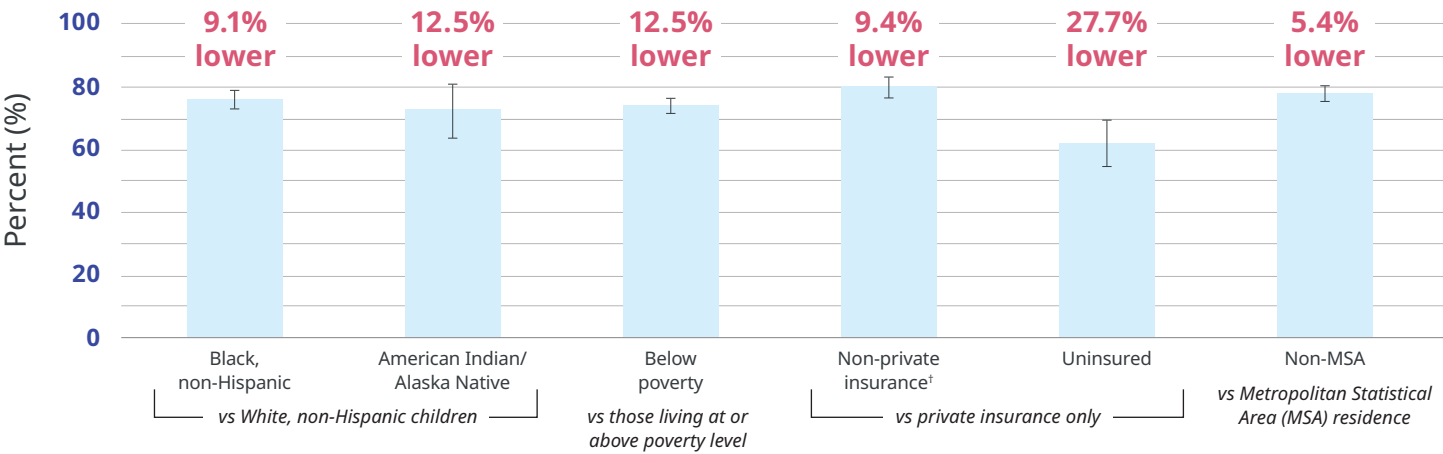
*Children who miss their PCV shots or start the series later should still get vaccinated. The number of doses recommended and the intervals between doses will depend on the child's age when vaccination begins.¹¹

PCV vaccination disparities by socioeconomic status, geography, race, and ethnicity have been demonstrated

Percentage of babies in each state who were born in 2018 and had received all 4 CDC-recommended doses of a PCV by 24 months of age^{12*}



Observed Differences in Vaccination Coverage by Age 24 Months Among Children Born During 2018–2019^{3*}



*These groups demonstrated statistically significant ($P < 0.05$) differences in receiving 4 doses of PCV by age 24 months compared to their reference groups.³

†Non-private insurance includes Children's Health Insurance Program, military insurance, coverage via the Indian Health Service, and any other type of health insurance. It does not include Medicaid insurance.³

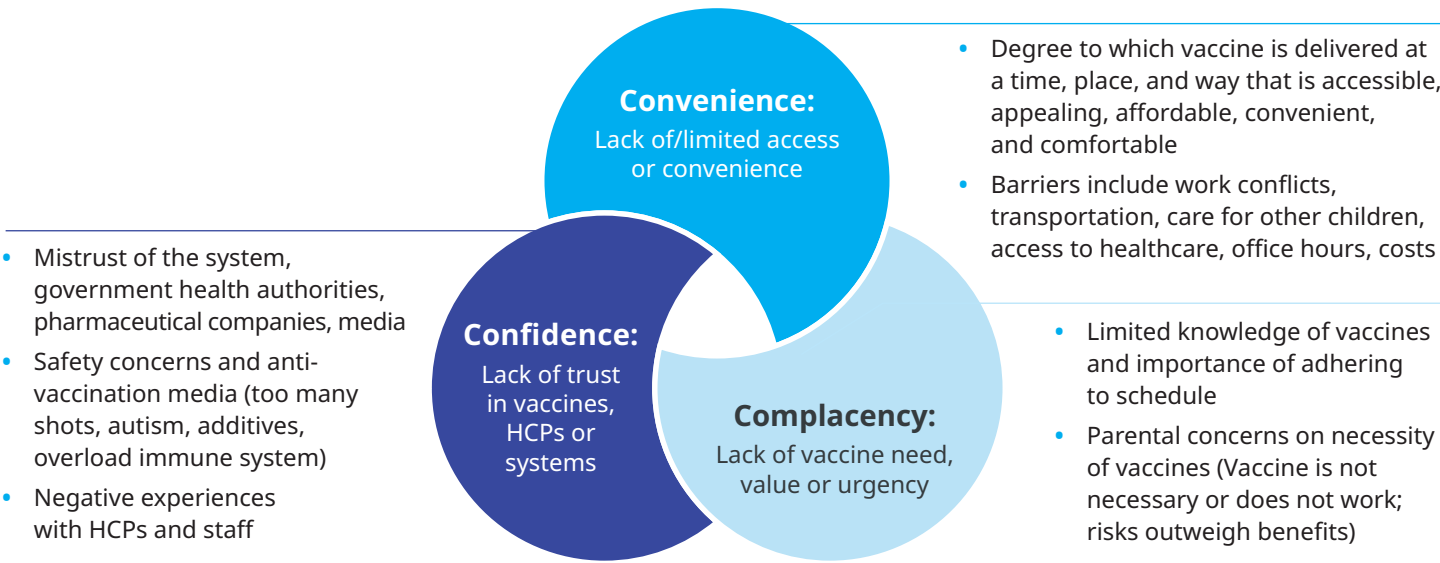
A broad lens is required to understand the complex interplay of factors that contribute to disparities in the US

The COVID-19 pandemic has demonstrated the value of using a multi-faceted approach to understand the interplay of socio-ecological, structural, and health factors that may present barriers to vaccination¹³

- **Social determinants of health (SDOH)** are defined as “the conditions in the environments in which people live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.” These factors can influence up to 80% of health outcomes.^{4,5}



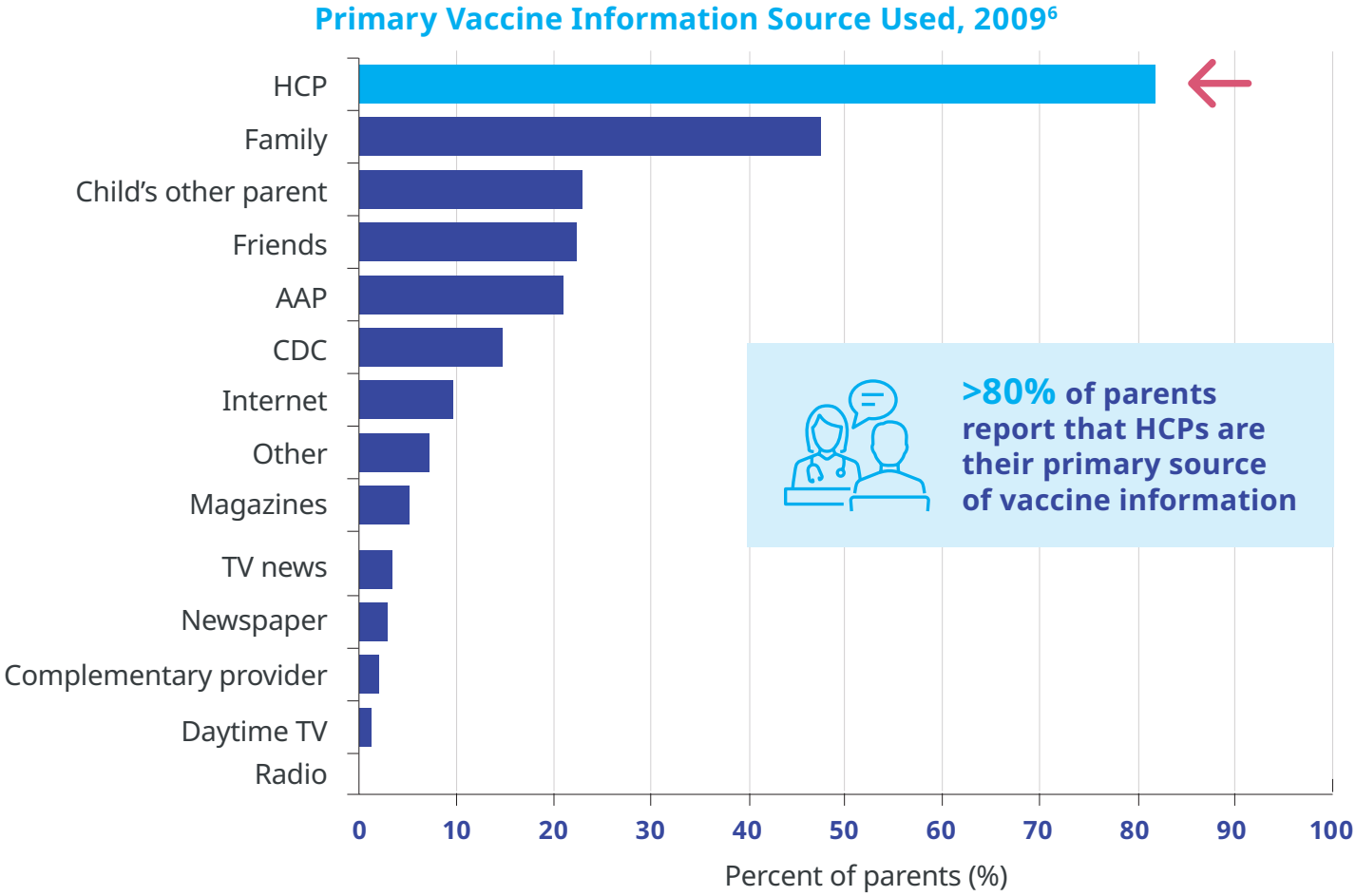
The 3 Cs model classifies the major factors that influence parent and guardian decisions to vaccinate⁷



Multi-component strategies that address the 3 Cs of vaccine hesitancy can help improve pediatric PCV immunization

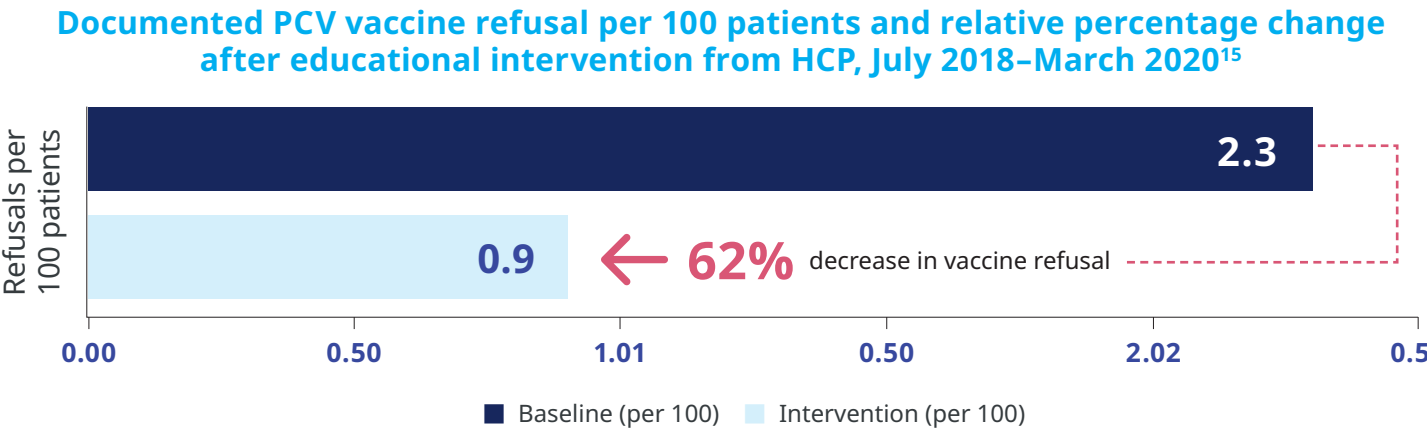
Healthcare Providers (HCPs) are the best source for vaccination information and can help combat vaccine hesitancy⁶

With the rampant spread of misleading health information on social media, HCPs must demonstrate their critical responsibility as credible, trusted health resources for patients, families, and communities¹⁴

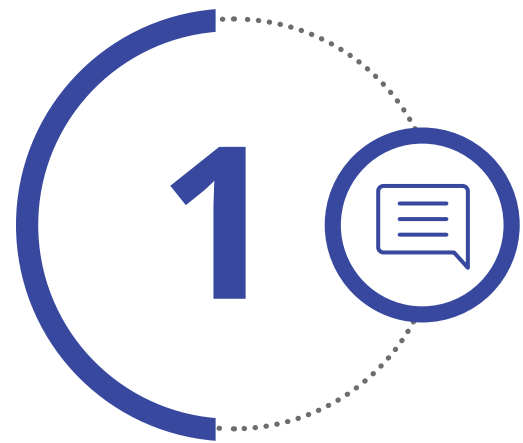


AAP=American Academy of Pediatrics

PCV acceptance has been shown to be greater when parents and guardians obtained information from HCPs¹⁵

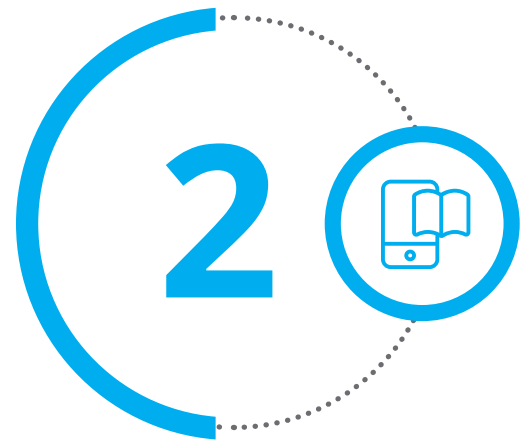


These 5 strategies can be implemented in your practice to increase pediatric pneumococcal vaccination rates and help reduce disparities in coverage



Make strong, confident recommendations

- **Educate parents** on the benefits of PCV vaccination¹⁶
- Use a **presumptive approach** (ie, “These are the shots we’re giving today”). This has been shown to decrease parental vaccine hesitancy by 57%¹⁷
- **Persist in making recommendations** – 47% of parents who initially resisted an HCP’s vaccine recommendations ultimately accepted them when the HCP was persistent¹⁷
- The American Academy of Pediatrics (AAP) provides HCP guidance on how to effectively communicate immunization information and address parental vaccine hesitancy



Use culturally appropriate and health literate patient education materials

- **Keep communications simple** – limit discussions to a few key topics, avoid medical jargon, and provide educational materials written at a 6th grade level or lower¹⁸⁻²⁰
- For non-English speakers, **ensure language interpreter services and multiple language materials are available**²¹



Help increase convenience to get patients immunized

- **Help patients get to their appointments** – ~24% or more appointments are missed due to transportation problems²²
 - Denver Health began providing patients with bus vouchers, taxi vouchers, and private car services after finding that a significant number of patients missed appointments due to lack of transportation²³
- **Offer flexible sites** for vaccine delivery with varying hours
 - During the pandemic, Latino Health Access in Orange County, CA offered vaccination clinics in easily accessible areas and opened clinics on weekends and holidays when people were more likely to be off work²⁴
- Ensure awareness that pediatric patients can get their vaccinations at no cost through the Vaccines for Children (VFC) program to reduce financial barriers



Collaborate with other HCPs, health departments, and local organizations

- Leverage and support local community organizations²⁵
 - Federally qualified health centers (FQHCs) continue to be an important source of culturally sensitive, affordable care and health information for low-income communities. These centers have shown to be increasingly important access points of care in helping to address disparities by supporting vaccine access to diverse racial and ethnic backgrounds²⁶
- **Connect with trusted community members** and institutions such as churches, schools, employers²⁵
 - After observing the vaccination uptake disparities in Jacksonville, Florida’s Black and African American populations, the health department partnered with Black and African American churches in those areas to hold on-site clinics and vaccinate 60,000 people²⁷



Leverage the use of evidence-based technology platforms

- Document vaccinations in **Immunization Information Systems (IIS)**²⁸
- Consistently run reports and utilize reminder/recall systems to proactively identify and notify parents whose children are eligible or overdue for their routine vaccinations
 - In Florida, Duval County Health Department was able to successfully increase pediatric vaccination rates by using “Florida SHOTS registry” to identify children due or overdue for vaccinations²⁵

Pfizer is committed to increasing access to quality healthcare and improving health equity for all people to live healthier lives

For additional resources, please visit:
<https://pneumococcaldisease.pfizerpro.com>



References

1. UNICEF. Immunization: Vaccines are the world's safest method to protect children from life-threatening diseases. <https://www.unicef.org/immunization>. Accessed March 27, 2023.
2. Immunize.org. Vaccines Work. <https://www.immunize.org/catg.d/p4037.pdf>. Accessed March 27, 2023.
3. Hill HA, Chen M, Elam-Evans LD, Yankey D, Singleton JA. Vaccination coverage by age 24 months among children born during 2018-2019 – National Immunization Survey-Child, United States, 2019-2021. *MMWR Morb Mortal Wkly Rep*. 2023;72(2):33-38.
4. Harris County Medical Society. Social Determinants of Health. <https://www.hcms.org/tmimis/>. https://www.hcms.org/tmimis/HARRIS/Practice_Resources/Tools_and_Resources/Social_Determinants_of_Health.aspx#:~:text=Social%20determinants%20of%20health%20%28SDOH%29%20are%20defined%20to,for%20patients%20and%20their%20ability%20to%20receive%20care. Accessed February 15, 2023.
5. Healthy People 2030. Social determinants of health. <https://health.gov/healthypeople/priority-areas/social-determinants-health>. Accessed February 9, 2023.
6. Kennedy A, Basket M, Sheedy K. Vaccine attitudes, concerns, and information sources reported by parents of young children: results from the 2009 HealthStyles survey. *Pediatrics*. 2011;127(suppl 1):S92-S99.
7. Macdonald NE; SAGE Working Group on Vaccine Hesitancy. Vaccine hesitancy: Definition, scope and determinants. *Vaccine*. 2015;33(34): 4161-4164.
8. Olson O, Berry C, Kumar N. Addressing parental vaccine hesitancy towards childhood vaccines in the United States: a systematic literature review of communication interventions and strategies. *Vaccines* (Basel). 2020;8(4):590.
9. Healthy People 2030. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/vaccination/reduce-proportion-children-who-get-no-recommended-vaccines-age-2-years-iid-02>. Accessed February 12, 2023.
10. Freeman RE, Thaker J, Daley MF, Glanz JM, Newcomer SR. Vaccine timeliness and prevalence of undervaccination patterns in children ages 0-19 months, U.S., National Immunization Survey-Child 2017. *Vaccine*. 2022;40(5):765-773.
11. Centers for Disease Control and Prevention. Pneumococcal vaccine recommendations. <https://www.cdc.gov/vaccines/vpd/pneumo/hcp/recommendations.html>. Accessed February 8, 2023.
12. Centers for Disease Control and Prevention. Vaccination coverage among young children (0-35 months). <https://www.cdc.gov/vaccines/imz-managers/coverage/childvaxview/interactive-reports/index.html>. Accessed November 14, 2022.
13. Lun P, Gao J, Tang B, et al. A social ecological approach to identify the barriers and facilitators to COVID-19 vaccination acceptance: A scoping review. *PLoS One*. 2022;17(10):e0272642.
14. Suarez-Lledo V, Alvarez-Galvez J. Prevalence of health misinformation on social media: systematic review. *J Med Internet Res*. 2021;23(1):e17187.
15. Cole JW, M H Chen A, McGuire K, Berman S, Gardner J, Teegala Y. Motivational interviewing and vaccine acceptance in children: The MOTIVE study [published correction appears in *Vaccine*. 2022 May 31;40(25):3482]. *Vaccine*. 2022;40(12):1846-1854.
16. American Academy of Pediatrics. Talking with Vaccine Hesitant Parents. <https://www.aap.org/en/patient-care/immunizations/communicating-with-families-and-promoting-vaccine-confidence/talking-with-vaccine-hesitant-parents/>. Accessed February 15, 2023.
17. Opel DJ, Heritage J, Taylor JA, et al. The architecture of provider-parent vaccine discussions at health supervision visits. *Pediatrics*. 2013;132(6):1037-1046.
18. Wittink H, Oosterhaven J. Patient education and health literacy. *Musculoskelet Sci Pract*. 2018;38:120-127.
19. Safer RS, Keenan J. Health literacy: the gap between physicians and patients. *Am Fam Physician*. 2005;72:463-468.
20. Akinleye SD, Krochak R, Richardson N, Garofolo G, Culbertson MD, Erez O. Readability of the most commonly accessed arthroscopy-related online patient education materials. *Arthroscopy*. 2018;34(4):1272-1279.
21. Agency for Healthcare Research and Quality (AHRQ). Health Literacy Universal Precautions Toolkit, 2nd Edition. <https://www.ahrq.gov/health-literacy/improve/precautions/tool9.html>. Published February 2015, Accessed February 16, 2023.
22. Syed ST, Gerber BS, Sharp LK. Traveling towards disease: transportation barriers to health care access. *J Community Health*. 2013;38(5):976-993.
23. AAMC. Driving innovative health care solutions for underserved populations. 2019. <https://www.aamc.org/news-insights/driving-innovative-health-care-solutions-underserved-populations>. Accessed February 12, 2023.
24. Centers for Disease Control and Prevention. Vaccines & Immunizations. Stories from the field. <http://www.cdc.gov/vaccines/health-equity/field-stories.html>. Accessed February 11, 2023.
25. Centers for Disease Control and Prevention. Vaccines & Immunizations. 12 COVID-19 vaccination strategies for your community. <https://www.cdc.gov/vaccines/covid-19/vaccinate-with-confidence/community.html>. Accessed February 11, 2023.
26. Heath S. FQHCs Remain Instrumental in Health Equity, COVID-19 Efforts. <https://patientengagementhit.com/news/fqhcs-remain-instrumental-in-health-equity-covid-19-efforts>. Published January 12, 2022. Accessed April 10, 2023.
27. Centers for Disease Control and Prevention. Vaccines & Immunizations. Ways health departments can help increase COVID-19 vaccinations. <https://www.cdc.gov/vaccines/covid-19/health-departments/generate-vaccinations.html#print>. Accessed February 11, 2023.
28. Centers for Disease Control and Prevention. Healthcare Providers/Professionals. Document the vaccination(s). <https://www.cdc.gov/vaccines/hcp/admin/document-vaccines.html>. Accessed February 11, 2023.