

The Ohio College of Clinical Pharmacy Position Statement on Vaccine Confidence

Purpose: *To inform on historical factors contributing to vaccine hesitancy and utilize motivational interviewing skills to increase patients' vaccine confidence*

As of May 2021, COVID-19 has infected approximately 160 million people worldwide and 33 million Americans. COVID-19 has taken the lives of 3.3 million people worldwide and 582,848 Americans.¹ While the novel SARS-CoV-2 coronavirus has up-ended a sense of “normalcy” for all humans worldwide, it has highlighted health disparities for vulnerable populations by exploiting the inadequacies in our healthcare infrastructure. Nationally, Ohio ranks 47th out of the 50 states and District of Columbia (D.C.) on health value. Identified factors driving Ohio’s dismal state of health include childhood adversity and trauma; minority health inequity; and poor public health prevention.² Health inequity and the low emphasis on public health prevention lead to increased risk for diabetes, heart disease, lung disease, and obesity, which parallel the risk factors influencing morbidity and mortality of severe COVID-19 disease in Americans. Similarly, insufficient Ohio pre-natal care increases the likelihood of poorer birth outcomes. This is compounded by COVID-19, as pregnant individuals infected with COVID-19 are not only at increased risk of severe disease compared to non-pregnant women but also at increased risk of untoward pregnancy outcomes.³

Most of the interventions to treat mild to severe disease are administered in the hospital setting with modest benefit.⁴ The main way for us to overcome this pandemic is to utilize the preventive infectious disease tools at our disposal: vaccinations. There is concern regarding the factors influencing COVID-19 vaccine uptake in Ohio communities, as Ohio is ranked 33rd out of 50 states and D.C. for vaccines started (43%, May 2021).^{4,5} Disproportionate

risk of severe COVID-19 infection in minority communities and/or pregnant women combined with the apprehension of receiving a COVID-19 vaccine in these same demographics are widening the extant gap on COVID-19 morbidity and mortality in these subgroups. One in four Americans do not want to receive a COVID-19 vaccine, including healthcare workers.⁵⁻⁷ It is estimated that at least 7 in 10 Americans need to be vaccinated to achieve “community immunity” from COVID-19 and put an end to this pandemic.⁸

To increase community immunity and decrease the infection risk from more transmissible COVID-19 variants, factors associated with vaccine hesitancy need to be addressed. Reasons for vaccine hesitancy can be as varied as personal experiences (e.g., mistrust, safety, trypanophobia) and concerns about vaccine data (e.g., accelerated vaccine development). To break the cycle of health inequity resulting from COVID-19, the underlying concerns of vulnerable communities and how those concerns contribute to their health-care experiences, promote trust in medical care, and affect vaccine confidence must be understood and rectified. The OCCP Advocacy Committee extensively researched the drivers impacting vaccine confidence in minority and pregnant Americans as well as how pharmacists are uniquely positioned to increase trust in the COVID-19 pandemic effort. The Ohio College of Clinical Pharmacy identified the following influential factors in vaccine confidence:

1. Minority Mistrust in Healthcare

This pandemic has exposed American healthcare discrepancies in the minority population, but the lack of engagement with healthcare and clinical research is rooted in the history of unethical medical practices since the 19th century.⁹ In the 1840s, Dr. Marion Sims performed innumerable vaginal fistula surgeries

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on Black, enslaved women without anesthesia. He did not obtain informed consent, since these women were considered “property” and not “free” to have a choice.¹⁰ In 1932, the “Tuskegee Study of Untreated Syphilis in the Negro Male” followed 600 Black men with and without syphilis who were enrolled without informed consent. During the 40-year study, penicillin was available beginning in 1941 and – though it remains the preferred syphilis treatment today – none of the 399 participants with syphilis were offered treatment.¹¹ More recently in the 1990s, the Johns Hopkins Kennedy Krieger Institute studied lead exposures in 108 African American children to find cost-effective means for childhood lead exposure reduction. The most ethical intervention would have been to eliminate lead exposure risk from homes, but that was considered too costly. Families were instead given incremental monetary abatements to live in homes with increasing lead levels during the multi-year study.¹²

Unfortunately, this mistrust is not limited to the Black community; American Indian and LatinX communities have also been affected by unprotected radiation exposure as well as fear of deportation when seeking medical care. Navajo miners were tasked to mine uranium in the Southwestern U.S. in the mid-20th century. Despite the known lung cancer risks of uranium and radon exposure, there were minimal protections offered to the Navajo. It was not until 1990 that the “Radiation Exposure Compensation Act (RECA)” was passed for reparations.¹³ Furthermore, immigrant families are often less likely to engage in healthcare due to fear of deportation; rates of uninsured LatinX children via governmental health insurance programs increased from 7.7 to 8.1% between 2016 and 2018.¹⁴ Unfortunately, these concerns reportedly increase toxic stress levels for both parents and children according to pediatricians and exacerbate the poorer health outcomes in LatinX communities.¹⁵

These experiences are just snapshots in the long history of questionable experimentation, inadequate protections, and medical unease in minority communities. In addition to these egregious events, individuals in communities of color still report experiencing unconscious bias during health care encounters as well as unequal access to basic healthcare measures like vaccines.^{16–18} Racial disparities in pain management, for example, still exist in the 21st century, where medical trainees inappropriately believe that Black patients have “thicker skin” and higher pain tolerance than White patients.¹⁹ Therefore, pharmacists need to make deliberate efforts to address their unconscious bias, as this along with minority mistrust can influence decisions to receive a COVID-19 vaccine²⁰ and engage with the healthcare system at-large.

2. Pregnancy and Fertility

COVID-19 has not spared pregnant women, as the risk of severe disease is higher in pregnant than non-pregnant women.^{21,22} According to 2018 infant vitality statistics, Ohio’s overall infant mortality rate exceeded the national average (6.9 vs. 5.7 per 1,000 live births, respectively), and Ohio’s Black infant mortality rate was 2-fold higher (13.9 per 1,000 live births).^{23,24} The lack of preventative healthcare services in Ohio puts pregnant women at increased risk for poorer birth outcomes, such as pre-term birth,³ and misinformation can undermine preventative efforts. For example, unsubstantiated claims of infertility based on purported similarities between syncytin-1 (placental protein) and the SARS-CoV-2 spike protein in the mRNA COVID-19 vaccine circulated the internet and induced anxiety in women of childbearing age.²⁵ Despite the data demonstrating increased risks of COVID-19 for pregnant individuals, particularly women of color, it may feel like more of a choice to introduce a vaccine than to keep themselves vulnerable to the risks of the infection if they

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remain unvaccinated. These concerns are not unique to the COVID-19 vaccine. From 2019-20, CDC surveillance identified that 61.2%, 56.6% and 40.3% of pregnant women received influenza, Tdap, and both vaccines, respectively.²⁶ This may be amplified by the plethora of items pregnant individuals are told they need to avoid to protect their unborn child. While the American College of Obstetricians and Gynecologists have championed pregnant individuals having access to COVID-19 vaccines, they have also stressed the importance of pregnant and lactating individuals being empowered and supported to make their own decision.

Historically, one needs to acknowledge that the government has not prioritized women's health autonomy. In the LatinX communities, U.S. laws have disproportionately legalized compulsory sterilization with or without consent for the "benefit of governmental socioeconomic health." Congress passed "Law 116" in 1937 that legalized the sterilization of Puerto Rican women for population control, citing island overpopulation as the main factor for poor socioeconomic conditions and Puerto Rican poverty. Surveys cite that 1 in 5 Puerto Rican women regretted the procedure commonly referred to as "*la operacion*," given how routine the practice became on the island.^{27,28} Thirty U.S. states, notably California and New York, legalized eugenic sterilization programs that disproportionately selected Latinas in healthcare settings and prisons.²⁹ In North Carolina, 65% of sterilization procedures were performed on Black women, though only 25% of the state's female population is Black.^{30,31}

Honest conversations about the role of preventative treatments in pregnancy as well as in women of childbearing age will help identify opportunities to understand the individual perspectives of each birth experience and determine which factors may be most influential

regarding prenatal and fertility medical decision-making.

The Pharmacists' Role in Vaccine Confidence

Pharmacists may not only have the task of reassuring their patients but also reassuring themselves about the COVID-19 vaccine, as some could be reconciling their own minority and/or childbearing concerns. This progression often does not take a single conversation but occurs over a continuum of change. Pharmacists are accessible, trusted, healthcare workers who are knowledgeable about vaccines and able to translate health information into patient-comprehensible language. Thus, they are well-positioned to engage in these series of conversations necessary to increase vaccine confidence. As with smoking cessation counseling, pharmacists can gauge patients' readiness for change (e.g., vaccine uptake). Whether patients are in the "precontemplation" or "action" stages of change, pharmacists can employ motivational interviewing to guide our patients throughout their vaccine confidence journey.^{33,34} It's important that pharmacists be mindful of how they broach what can be a sensitive and personal discussion. Pharmacists should be prepared to listen to concerns without judgement and determine how best to react to those who are vaccine hesitant.

The Institute for Healthcare Improvement published a conversation guide to engage those with varying vaccine concerns.³⁵ Individual populations have specific concerns that should be uniquely addressed. When engaging with the minority community, pharmacists should ask patients of color about their past healthcare experiences and recognize that racial inequity in healthcare is an uncomfortable conversation. For example, one can use phrases like "learning more may help the two of us in our relationship to rebuild trust that has been historically broken." Furthermore, if access to COVID vaccines is limited, pharmacists can bring the

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vaccines to patients' doorsteps to increase opportunities for vaccinations.³⁶ With respect to pregnancy and fertility, pharmacists should acknowledge the benefits as well as both the known and unknown risks of the vaccine. If patients are open to it, information regarding vaccine development and testimonials of vaccine confidence from pregnant women with shared safety concerns may be shared. Recent mRNA vaccine data show vaccinated women can pass on immunity to their children, and there were no differences in pregnancy outcomes between pre-COVID and vaccinated women.^{37,38}

Conversations regarding vaccination may need to happen more than once, and some vaccine-hesitant individuals may not be open to the conversation at all. At a minimum, pharmacists can remind patients with each interaction that they are available to listen to their concerns, address their vaccine questions in plain language, and vaccinate when they feel ready.

Conclusion

Vaccine confidence is the trust that patients, families, and providers have in the recommended vaccine, the providers who administer those vaccines, and the policies that led to vaccine development and authorization.³⁹ In order to encourage patients' vaccine confidence, pharmacists need to earn trust by acknowledging the past life events contributory to current health experiences. This statement posits that pharmacists are well-positioned to empathize with patients' experiences through their training in motivational interviewing and medication counseling and remain accessible throughout that journey to administer vaccinations for community immunity.

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References:

1. COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. Published May 12, 2021. Accessed May 12, 2021. <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>
2. Health Policy Institute of Ohio. 2021 Health Value Dashboard. Published April 2021. Accessed May 12, 2021. <https://www.healthpolicyohio.org/2021-health-value-dashboard/>
3. CDC. Investigating the Impact of COVID-19 during Pregnancy. Centers for Disease Control and Prevention. Published February 4, 2021. Accessed May 12, 2021. <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/pregnancy-data-on-covid-19/what-cdc-is-doing.html>
4. Bhimraj A, Morgan RL, Shumaker AH, et al. Infectious Diseases Society of America Guidelines on the Treatment and Management of Patients with COVID-19. *Clin Infect Dis Off Publ Infect Dis Soc Am*. Published online April 14, 2021. doi:10.1093/cid/ciaa478
5. Poll M. COVID-19 Vaccine Hesitancy. Published May 11, 2021. Accessed May 12, 2021. <http://maristpoll.marist.edu/covid-19-vaccine-hesitancy/>
6. Dror AA, Eisenbach N, Taiber S, et al. Vaccine hesitancy: the next challenge in the fight against COVID-19. *Eur J Epidemiol*. 2020;35(8):775-779. doi:10.1007/s10654-020-00671-y
7. Paterson P, Meurice F, Stanberry LR, Glismann S, Rosenthal SL, Larson HJ. Vaccine hesitancy and healthcare providers. *Vaccine*. 2016;34(52):6700-6706. doi:10.1016/j.vaccine.2016.10.042
8. CDC. Benefits of Getting a COVID-19 Vaccine. Centers for Disease Control and Prevention. Published April 12, 2021. Accessed May 12, 2021. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/vaccine-benefits.html>
9. Scharff DP, Mathews KJ, Jackson P, Hoffsuemmer J, Martin E, Edwards D. More than Tuskegee: Understanding Mistrust about Research Participation. *J Health Care Poor Underserved*. 2010;21(3):879-897. doi:10.1353/hpu.0.0323
10. Sims JM (James M, Marion-Sims H (Harry)). *The Story of My Life*. New York, D. Appleton and company; 1884. Accessed May 12, 2021. <http://archive.org/details/storyofmylif00sims>
11. Tuskegee Study - Timeline - CDC - NCHHSTP. Published December 10, 2020. Accessed May 12, 2021. <https://www.cdc.gov/tuskegee/timeline.htm>
12. Rosner D, Markowitz G. With the Best INTENTIONS Lead Research and the Challenge to Public Health. *Am J Public Health*. 2012;102(11):e19-e33. doi:10.2105/AJPH.2012.301004
13. Brugge D, Goble R. The History of Uranium Mining and the Navajo People. *Am J Public Health*. 2002;92(9):1410-1419.

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14. Whitener K, Lopez S, Roygardner L, Snider M. Decade of Success for Latino Children’s Health Now in Jeopardy. Published online 2020:31.
15. Artiga S, Ubri P. Living in an Immigrant Family in America: How Fear and Toxic Stress are Affecting Daily Life, Well-Being, & Health. *Kais Fam Found*. Published online December 2017:1-24.
16. FitzGerald C, Hurst S. Implicit bias in healthcare professionals: a systematic review. *BMC Med Ethics*. 2017;18(1):19. doi:10.1186/s12910-017-0179-8
17. Marcelin JR, Siraj DS, Victor R, Kotadia S, Maldonado YA. The Impact of Unconscious Bias in Healthcare: How to Recognize and Mitigate It. *J Infect Dis*. 2019;220(Supplement_2):S62-S73. doi:10.1093/infdis/jiz214
18. Oxtoby K. How unconscious bias can discriminate against patients and affect their care. *BMJ*. 2020;371:m4152. doi:10.1136/bmj.m4152
19. Hoffman KM, Trawalter S, Axt JR, Oliver MN. Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proc Natl Acad Sci*. 2016;113(16):4296-4301. doi:10.1073/pnas.1516047113
20. Nguyen LH, Joshi AD, Drew DA, et al. Racial and ethnic differences in COVID-19 vaccine hesitancy and uptake. *medRxiv*. Published online February 28, 2021. doi:10.1101/2021.02.25.21252402
21. Delahoy MJ. Characteristics and Maternal and Birth Outcomes of Hospitalized Pregnant Women with Laboratory-Confirmed COVID-19 — COVID-NET, 13 States, March 1–August 22, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69. doi:10.15585/mmwr.mm6938e1
22. Ellington S. Characteristics of Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status — United States, January 22–June 7, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69. doi:10.15585/mmwr.mm6925a1
23. Infant Vitality | Ohio Department of Health. Accessed May 19, 2021. <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/infant-vitality/infant-vitality>
24. CDC. Infant Mortality. Published September 10, 2020. Accessed May 19, 2021. <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm>
25. Fauzia M. Fact check: A false post on social media claims COVID-19 vaccine causes infertility in women. USA TODAY. Published December 15, 2020. Accessed May 12, 2021. <https://www.usatoday.com/story/news/factcheck/2020/12/14/fact-check-no-evidence-covid-19-vaccine-causes-infertility-women/3884328001/>
26. Razzaghi H. Influenza and Tdap Vaccination Coverage Among Pregnant Women — United States, April 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69. doi:10.15585/mmwr.mm6939a2
27. Puerto Rico. The Eugenics Archives. Accessed May 12, 2021. <http://eugenicsarchive.ca/discover/connections/530ba18176f0db569b00001b>

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28. Boring CC, Rochat RW, Becerra J. Sterilization regret among Puerto Rican women. *Fertil Steril*. 1988;49(6):973-981.
29. Novak NL, Lira N, O'Connor KE, Harlow SD, Kardia SLR, Stern AM. Disproportionate Sterilization of Latinos Under California's Eugenic Sterilization Program, 1920–1945. *Am J Public Health*. 2018;108(5):611-613. doi:10.2105/AJPH.2018.304369
30. Woodside M. Sterilization and social welfare. *Eugen Rev*. 1949;40(4):205-210.
31. Begos K, Deaver D, Railey J, Sexton S. *Against Their Will: North Carolina's Sterilization Program and the Campaign for Reparations*. Gray Oak Books; 2012.
32. Manolakis PG, Skelton JB. Pharmacists' Contributions to Primary Care in the United States Collaborating to Address Unmet Patient Care Needs: The Emerging Role for Pharmacists to Address the Shortage of Primary Care Providers. *Am J Pharm Educ*. 2010;74(10). Accessed May 12, 2021. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3058447/>
33. Olenik A, Mospan CM. Smoking cessation: Identifying readiness to quit and designing a plan. *J Am Acad PAs*. 2017;30(7):13-19. doi:10.1097/01.JAA.0000520530.80388.2f
34. Prochaska JO, Velicer WF. The transtheoretical model of health behavior change. *Am J Health Promot AJHP*. 1997;12(1):38-48. doi:10.4278/0890-1171-12.1.38
35. Balik B, Hilton K, Isaac T. Conversation Guide to Improve COVID-19 Vaccine Uptake | IHI - Institute for Healthcare Improvement. Published online March 12, 2021:1-14.
36. Abdul-Mutakabbir JC, Casey S, Jews V, et al. A three-tiered approach to address barriers to COVID-19 vaccine delivery in the Black community. *Lancet Glob Health*. 2021;9(6):e749-e750. doi:10.1016/S2214-109X(21)00099-1
37. Gray KJ, Bordt EA, Atyeo C, et al. COVID-19 vaccine response in pregnant and lactating women: a cohort study. *Am J Obstet Gynecol*. 2021;0(0). doi:10.1016/j.ajog.2021.03.023
38. Shimabukuro TT, Kim SY, Myers TR, et al. Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons. *N Engl J Med*. Published online April 21, 2021:1-10. doi:10.1056/NEJMoa2104983
39. Building Confidence in COVID-19 Vaccines | CDC. Published April 5, 2021. Accessed May 12, 2021. <https://www.cdc.gov/vaccines/covid-19/vaccinate-with-confidence.html>