Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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EDITORIAL

Vaccine humanity

John D. Grabenstein*

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ABSTRACT

Vaccines to help prevent COVID-19 disease have evoked myriad human emotions. Attitudes of the public toward vaccination can be grouped into hundreds of categories. Pharmacists need to recognize the many elements of what may be termed "vaccine humanity," a complex tangle of human responses. Vaccine humanity applies to all vaccines, not just COVID-19 vaccines. Many of the emotions (pro and con) exhibited toward COVID-19 vaccines were also expressed (pro and con) with Edward Jenner's smallpox vaccine in the 1800s. New disease, new vaccines, same humanity. Human behaviors to seek or decline vaccination typically pivot on several core elements: perceptions of susceptibility to disease, seriousness of the disease, benefits of vaccination, and barriers (e.g., safety concerns, distance, costs, uncertainty). The pharmacist who contributes the time to listen and explain–listen and explain–listen and explain performs a vital clinical service: enabling vaccinations that promote health and prevent disease.

The coronavirus disease 2019 (COVID-19) pandemic continues to rage in the United States and around the globe. Two years into the pandemic, various people are scared, worried, in denial, content, working, studying, living, getting by, thriving, hunkered down, grieving, back to their old routines, glad to be vaccinated, waiting to be vaccinated, confused about vaccination, trying to avoid vaccination, or apathetic about it all. Don't be tempted to paint with a broad brush[1] because "the people" can be segmented into hundreds of categories arrayed across dozens of dimensions. Those dimensions include age, gender, race, ethnicity, politics, religion, urbanicity, education, locus of control, and many others.

Over the last year, the public has learned much about vaccines. Pharmacists too have learned so much about people's confidence in vaccines or the lack thereof. The content of this theme issue of the *Journal of the American Pharmacists Association* (*JAPhA*) features 12 articles focused on "Vaccine Confidence." These articles present evidence-based solutions, means of addressing misinformation, and insights into people's beliefs. This theme complements the many resources offered by the American Pharmacists Association at vaccineconfident.pharmacist.com, helping pharmacists teach, listen, coach, and encourage and help people accept vaccination and, thus, avoid disease, hospitalization, and death. Listening shows respect and helps focus explanations into bite-size pieces.

One might be tempted to consider vaccine hesitancy as the opposite of vaccine confidence but that is not so. One could portray confidence at one end of a spectrum, hesitancy somewhat past the middle, and opposition at the far end. But that analogy is inadequate as well. It takes a multidimensional understanding of human nature to grasp what's going on.

Over the last year, we have seen myriad human emotions evoked by COVID-19 vaccines: admiration, anxiety, awe, confusion, craving, disgust, envy, excitement, fear, joy, sadness, satisfaction, triumph, and others.[2] I've spent 4 decades watching the relationships of adults to vaccination: seeking them, avoiding them, blissfully ignorant, or apathetic. Clearly, pharmacists need to see what lies beyond mere confidence or hesitancy. Pharmacists need to recognize the many elements of what I call "vaccine humanity," a complex tangle of human responses. Vaccine humanity applies to all vaccines, not just COVID-19 vaccines.

People who consider themselves susceptible to a disease appreciate the vaccine to prevent it but do not appreciate the vaccine if they think the disease will pass them by.[3-9] People know how serious rabies is, but most do not consider themselves vulnerable to it. Many people do not realize that they are susceptible to pneumococcal disease, zoster, hepatitis B, or other preventable diseases until their pharmacist points it out.

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* **Correspondence:** John D. Grabenstein, BSPharm, PhD, FAPhA, Immunize.org, 28182 Oaklands Road, Easton, MD.
E-mail address: coljdg@gmail.com (J.D. Grabenstein).

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Key Points

Background:

- Vaccination has evoked acclaim and criticism since Edward Jenner's smallpox vaccine in the 1800s.
- People make vaccine decisions based on perceptions of disease susceptibility, disease seriousness, vaccination benefits, and barriers.

Findings:

- "Vaccine humanity" is a name for a complex tangle of human responses, which applies to COVID-19 and all vaccines.
- Pharmacists who listen to their patients show respect and can focus explanations into bite-size pieces.

People who consider a disease to be serious tend to accept vaccination but not if they think the disease is trivial.[3-8] Most people consider rabies or lockjaw to be serious, but opinions about the seriousness of COVID-19, regrettably, are mixed. People who think that influenza cannot cause bad outcomes are less likely to accept vaccination.

People who understand the benefits of vaccination readily accept it,[3,4,6-9] but those who disagree bristle that a vaccine they perceive as worthless could be required. Those who know that shingles can be prevented appreciate that vaccine.

People skilled at navigating America's mosaic of a health system can avail themselves of vaccination, but barriers (e.g., safety concerns, distance, direct or indirect costs, uncertainty) impose friction that reduces the likelihood of vaccination.[3-7] The proximity of a pharmacist (in miles or hours) is part of pharmacy's success as a source of quality vaccination.

Notice that some of the references cited in earlier text are almost 50 years old. That's because human nature doesn't really change. Many of the emotions (pro and con) we see exhibited toward COVID-19 vaccines were also expressed (pro and con) with Edward Jenner's smallpox vaccine in the 1800s. New disease, new vaccines, same humanity.

The articles in this *JAPhA* issue help affirm what we know about human nature: most (but not all) people appreciate the benefit vaccines afford, personal and local communication networks are important, many people need and want more information, and they want to talk it through with someone they trust. People want to talk—pharmacists need to listen. The findings in this *JAPhA* issue match what I'm reading from other countries as well. Humanity is universal.

Who will tap susceptible people on the shoulder and start the conversations about how vaccines can protect? Who will listen to people express all-too-human worries and misunderstandings? Who will explain the facts and their implications? Who will take the time for round after round of questions? Who will advocate and encourage, calmly and confidently? The pharmacist who contributes the time to listen and explain—listen and explain—listen and explain will have performed a vital clinical service: enabling vaccinations that promote health and prevent disease. That's a pharmacist who truly touched a patient's life.[10] Here is a case where the public's health is enhanced one patient at a time.

People's vaccine needs reach beyond COVID-19. There are too many other vaccine-preventable diseases that cripple or kill adults: influenza, pneumococcal disease, hepatitis B, tetanus, and zoster, among others. In aggregate, hundreds of millions of U.S. adults (and even more overseas) are susceptible to these preventable diseases. But who will tell these good people that vaccine armor is available? Will their pharmacist? For those who are your patients, that's you—you personally. Tell them, help them, protect them.

Vaccines have only potential value in the refrigerator. A vaccine's real value comes after the act of vaccination. Please tap more shoulders. And listen. And explain. Repeat. Then vaccinate. You are their pharmacist. They may not realize it, but they are waiting for you to help them. Don't keep them waiting.

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John D. Grabenstein, BSPharm, PhD, FAPhA, Director, Scientific Communication, Immunize.org, Easton, MD