

# Variants, Antivirals, Vaccinations & Health Literacy



PODCAST 9

Dr. Jane Caldwell:

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Dr. Scott Ratzan has a lengthy, impressive, and unusual resume. Before he received his medical doctorate degree from the University of Southern California Medical School, he studied rhetoric and debate at Occidental College. At Emerson College, he received a master's degree in communications which emphasized ethics, public relations, political and health communications. As a pioneer in the areas of health communication and diplomacy, he co-authored "The Definition of Health Literacy" in the journal *Health Promotion International*. Dr. Ratzan co-directs the Master's Program in Health Communication for Social Change and is a distinguished lecturer at the CUNY School of Public Health and Health Policy. He holds adjunct professorial appointments at Columbia University Mailman School of Public Health, Tufts University School of Medicine, and the University of St. Andrews School of Medicine.

Dr. Ratzan is the editor-in-chief of the peer-reviewed *Journal of Health Communication: International Perspectives*. His books include *The Mad Cow Crisis: Health and the Public Good*, *Attaining Global Health: Challenges and Opportunities*, and *AIDS: Effective Health Communication for the '90s*. He is co-founder of the educational initiative CONVINCENCE, which stands for COVID-19, new vaccine, information, communication, and engagement. Hello, Dr. Ratzan, and welcome to *On Medical Grounds*.

Dr. Scott Ratzan:

Thank you, Jane. Happy to be here today.

Dr. Jane Caldwell:

In this podcast, we will discuss new oral antiviral treatments for COVID-19, the new Omicron variant and we will also compare these antiviral treatments to preventive measures such as vaccination. Also given your background, we'll touch on ways that health professionals can achieve improved health communications and advocate for health literacy and diplomacy. If you would please, tell me how you manage to combine the disciplines of rhetoric, debate, and medicine.

Dr. Scott Ratzan:

Well, Jane, thank you for that introduction. As you mentioned, I've been engaged with all sorts of areas of how we look at health challenges. My first work, when I first finished medical school in the 1980s, was when AIDS was first identified, and it was clear that we needed more than a medical response to address the

challenges that we faced with the HIV virus and that's where we really needed to combine the disciplines. Fortunately, I had known during my early career in medicine—I went to the Harvard Kennedy School of Government, studied health policy as well, as you mentioned, with the degree at Emerson in communication. It was clear that we needed to have a proper emphasis with an evidence base. Fortunately, years later, I was able to establish the program in health communication at Tufts Medical School and Emerson College and now lead Health Communication for Social Change master's program at CUNY School of Public Health in New York.

These disciplines now have evolved and there's 40 programs in the United States, many medical schools, schools of public health, schools of communication around the world have emphasis in health communication, combining an evidence base amongst theory and practice for, I should say, centuries when you think about how medicine began early, that it was not just the science. It was the art and the ability to give people information to make decisions and health and wellbeing. It's a long answer, but I'm happy to be engaged with the field and it's more prominent than ever these days with COVID.

Dr. Jane Caldwell:

That's excellent. Could you please give us the definition of health literacy?

Dr. Scott Ratzan:

Yeah. I was fortunate to identify health literacy as a challenge as mentioned in the global environment with *Health Promotion International* and others, but then worked with Dr. Ruth Parker at Emory and we developed a definition of health literacy that's now adopted in the Affordable Care Act as well as the activities on the national and state level. We've defined it as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services to make appropriate health decisions.

The reason why it's important to think of health literacy as a fundamental part of our health system is it's not just the individual's need to learn and it's not just the doctors or the learned intermediary, the pharmacist, the physician assistants, and others who are engaged to give people the information, it's also to simplify the system to make it easier to make the right choice for health and that's why we've called it appropriate health decisions with health literacy, and that's where our research is engaged. It's even evolved today into vaccine literacy to also help make it easier for people to choose vaccination. It's been a very exciting field to see it grow as well in concert with health communication.

Dr. Jane Caldwell:

How does that differ from health diplomacy?

Dr. Scott Ratzan:

Well, diplomacy is generally thought of as interaction between states. It goes back to the French in the 17th century. We have diplomacy at the state department of course, but we also now have health diplomacy and the office of AIDS and PEPFAR is all linked to developing again, programs and projects from USAID. I spent a couple years in Washington working for the agency where we were trying to not only give donor-based for development but teaching people and using diplomatic skills and policies that make it easier to advance health. That's where I think also we need, we're trying to do, some people have already called this vaccine diplomacy, to give vaccines, but giving vaccines does not promote vaccination. You need the policies and the communication in place, and that's where health diplomacy is the overarching construct.

Dr. Jane Caldwell:

Okay, well, let's apply those definitions to education and communication during the COVID-19 pandemic. Here in the U.S., the FDA has authorized, and I told you I had trouble pronouncing this, molnupiravir, is also looking at Paxlovid™ as two new oral antiviral drugs. Both are pills with a five-day treatment course and each pill has been found to improve the outcome of high-risk patients infected with COVID. Dr. Ratzan, how should the healthcare community respond to the news of these new treatments?

Dr. Scott Ratzan:

Well, first of all, it's great to see that the scientific and medical progress of applying the knowledge and skills that we've had over the years, initially, of course, with mRNA vaccines that were more experimental and now the main vaccines around the world, as well as the work that we've done over years for antiretrovirals with HIV and others. While molnupiravir, as well as Paxlovid, seem to be the first generation of medicines that will stem COVID, we need to say for your listeners that only molnupiravir has been approved at this juncture for emergency use authorization by the FDA for use, and Paxlovid is under review. We have seen, however, during COVID, one, speedier review for emergency use authorization, but secondly, companies have been much more proactive of putting information out on the hopeful nature of their medicine. One, being approved, but two, on the ability to stop the virus from replicating.

We have heard in both cases after the FDA review with the Merck drug called molnupiravir, that it does have at least some efficacy, it looks like at about 30% of cases, at least what was promoted in the FDA review. There are some groups that it's not approved for such as pregnant women and others, but it is a medicine that the U.S. government has invested a lot of money to buy the doses, and Merck is projecting 10 million courses of the drug that are available by the end of the year.

Dr. Jane Caldwell:

So this is for outcomes for high-risk patients only, is that correct?

Dr. Scott Ratzan:

Well, essentially, for better or worse, the best arsenal that we have and we've had, the only way we got rid of smallpox was through vaccines. The only way we got rid of polio was through vaccines, and the likely way that we're going to be able to really stem COVID is through vaccination. There are some people, however, whether they've had two doses, or now it's recommended to have three doses as the full set, some are calling it a booster. Some are saying it's really what the Pfizer and Moderna vaccine should have had are three doses. While people are not fully covered, there have been some breakthrough infections, and others that are not covered at all are having some infections.

These drugs are indicated once someone has both symptoms and a positive test. Then, they are suggested or prescribed by a physician to take the medicine for five days. They're not easy medicines to take. You have to take three pills twice a day in the case of the Paxlovid, at least what they're applying for emergency use authorization. The molnupiravir, you're also going to take three pills twice a day. I should have mentioned that the Pfizer one they're actually asking for two other drugs because there's a combination drug with Paxlovid.

Dr. Jane Caldwell:

So the high-risk studies, they looked at administration of these oral antiviral pills within three to five days after the COVID symptoms appeared. I guess timing is pretty important for the efficacy of these antivirals. Could you elaborate on the symptoms of COVID-19 and what the tipping point should be for medical intervention?

Dr. Scott Ratzan:

Well, first of all, the symptoms I think, I'm hopeful, that people know, as you mentioned, health literacy, that people know if they have a fever or chills, a cough, shortness of breath, fatigue, muscle or body aches, or headache, that those could be symptoms of the flu. But if you lose your taste or smell, more of a sore throat, congestion, and possibly even nausea or vomiting or diarrhea, you may have a symptom of COVID, in which case the first thing one should do is, if you can, which is what I think the U.S. is also trying to do, is you can take a test that will be reimbursed and free, according to the last iteration by President Biden, that will show—you can do an at-home test but then, of course, you need to see a physician to get a proper PCR test. You have to have a positive test before these drugs will be prescribed. It's one, the symptoms people should know about, and then two, the positive test. You can't just take these medicines as a prophylaxis on its own.

Dr. Jane Caldwell:

Well, I'm glad you mentioned that because that was my next question. Can it be used as a post-exposure prophylaxis?

Dr. Scott Ratzan:

Well, I guess in some ways you can call it a post-exposure treatment once if you're post-exposed and positive. That's what the label seems to have, that you need to be tested positive.

Dr. Jane Caldwell:

I see.

Dr. Scott Ratzan:

Or you can take these drugs and the government's going to pay for them. And this Paxlovid is \$530 for five days and \$700 for molnupiravir. I'm also stumbling on it, if I can say, but they're buying these. These are \$700 courses. You do have to go see a physician. You do have to have it prescribed. Then the physician will prescribe it after a positive result of a test.

Dr. Jane Caldwell:

Can these pills prevent us from getting COVID?

Dr. Scott Ratzan:

Well, these two have not been applied for in that regard. However, there is a new monoclonal antibody called Evusheld™ approved by the FDA last week. That's an injectable for people who can't get vaccinated who have compromised immune systems. That is a pre-exposure prophylaxis, but that's a very different medicine and that's also just approved and only for people who have moderate to severely compromised immune systems. Of course, those could be people on chemotherapy of all ages, or there's also an indication that it's been approved if someone had a history of severe adverse reactions to COVID vaccines. They also could take this pre-exposure prophylaxis Evusheld as prescribed.

Dr. Jane Caldwell:

I see. So the big question this month is will it be effective against the Omicron variant?

Dr. Scott Ratzan:

Well, it seems that nobody knows right now if we could just call it that. The data is not all in on the Omicron variant and how all the vaccines are going to stand up. We've talked about, I mentioned, the mRNA vaccines most people know now as the Pfizer or the Moderna. There's also a Johnson & Johnson vaccine which is adenovirus, which was a single dose, also recommending boosters. Each of the companies that have been making these have put out some preliminary data that they believe that theirs is effective. They're not saying a hundred percent effective and they're not saying zero. I think the data still needs to be collected and then we will know. But the one thing we do know about Omicron variant is that it is more infective. Over the last day, at least the data in the UK reported, it's tripled in the number of people it's infected, but the data in South Africa at this point does not seem to show that it is more deadly.

However, when I listened in on the last CDC briefing, they say this virus has tricked us before. The Omicron variant already has 30 mutations and if we have an Omicron plus variant.... We did have a Delta plus variant that was in the press a little bit. Some of these become more virulent and a couple of mutations as it keeps circulating because we don't have a fully-vaccinated population. It is likely that a new variant or a new plus variant, if I just call it that or a new mutation, will change the nature of it. It could outsmart the vaccine. It could make it more deadly or it could make it less. The only thing I would say to Omicron and to all of the listeners is, we know that it is not over yet. This is not the end of what we'll see for mutations. This is not the end of frankly what we'll probably see for medications as well as they work *in vivo* rather than as they keep going through.

As people know the pharmaceutical approval process, we also have what is called post-marketing surveillance. Now that these medicines will be out, we will survey in a very hopefully comprehensive way to see one, if there's any side effects, and two, how well the efficacy is on the five-day regimen that we began speaking about earlier, Jane.

Dr. Jane Caldwell:

I'm going to get super technical here concerning mutations. Do you know if the mutations are single nucleotide, single point mutations, or if there are frameshifts?

Dr. Scott Ratzan:

Well, I don't really want to say that I'm an immunologist nor a virologist on this. I think it would be speculation for me to say. The point is that these drugs do seem to work very well on where they actually insert in the RNA, in the sequence and interfering with the replication, and whether it's the nucleotide, as you mentioned, or others, I think that needs to be more, shall I say, in the medical science of figuring out where's the right place to attack this virus just as we found in HIV.

Early in HIV we were trying all sorts of mechanisms and the protease inhibitors seemed to work the best, but then we knew that we needed NNRTIs. We needed a whole variety of medicines in combination. And then even looking at the medicines that now have been used for pre-exposure prophylaxis on HIV, all of these evolve. We're learning quite a bit on the coronavirus. And we have been tracking coronaviruses with

other SARS and Middle East Respiratory Syndrome and others. I think we have a good arsenal, but I'll leave that up to the scientists who are developing these medicines to develop the right safety profile and efficacy.

Dr. Jane Caldwell:

Do oral antivirals like vaccines pose some, albeit small, inherent risks to the patient?

Dr. Scott Ratzan:

Everything we do in life has a risk, right? Crossing the street I used to say was something we learned in grade school. You look both ways before you go. Now I have a telephone and texting and other pieces that people have forgot some basic things like that. There's an inherent risk every time you get in a car. We try to eliminate that, so we put on seat belts. We have airbags. We have safety measures in cars. We have traffic lights. All of these have some sort of risk. Every medicine we take has some sort of risk as well as every vaccine that we take. However, in the case of COVID or coronavirus CoV-2 and SARS CoV-2, we know that this virus and this constellation of COVID-19, which could be both a short term, short term hospitalization, and lung failure and cardiac failure, to long COVID, which has other sequelae that we keep learning about.

All of those risks from the virus itself are much worse than any of the risks that we found with both the vaccines as well as with these medicines. That's with the FDA, and in the case of these medicines, even the CDC, the Advisory Committee on Immunization Practice, and then a CDC advisory also suggests on these medicines, have identified the risk being quite small orders of magnitude with the medicines less than the actual disease itself in this case. That's why we have the approval process. Just like we would on deadly cancers and others, we are willing to accept some risks and the risks, in this case, are very small.

Dr. Jane Caldwell:

I'm just concerned that the general public will now think we have a pill for that, why bother to get a vaccination for COVID? Should healthcare providers continue to stress vaccination over the use of these medications?

Dr. Scott Ratzan:

Jane, 100%. It's a great question. Great concern. I'm concerned. I know that many in the public health community are concerned. Medicine is concerned that we cannot rely on a pill to get us out of this pandemic. We can't rely on injectable antibodies. The vaccine is the only way that we'll be able to work toward getting herd immunity or getting it to a level that it becomes like another flu. I think every expert that's speaking on television, every expert on your podcasts, every expert that is working with their medical groups, whether their grand rounds to a local level, should stress the top three pieces are get a vaccine, get your first, second, and third dose vaccine if you're not there yet and promote vaccination for people where you work, for people who you interact with, whether it's at churches, synagogues, sporting clubs, what have you, and promote the vaccination as the norm.

Nobody questioned, at least in my generation, getting a polio vaccine. We don't have polio on this entire hemisphere. There a few countries that have cases under a hundred a year. Years before, we did the same with smallpox. People would get the vaccine. There's no reason why we shouldn't start to think of this vaccine the same way.

Dr. Jane Caldwell:

You've been a tireless advocate for health education. Where did we go wrong in communicating to the public about the need, the efficacy, and the safety of the COVID vaccines?

Dr. Scott Ratzan:

Well, where did we go wrong? First and foremost, we had the identification of this disease early on, now almost two years ago December. That's why it's COVID-19. We're in 21. We had a public health emergency of international concern that was called and later named a pandemic. Early in this country, we had an administration that didn't want to believe we would have more than 15 cases and it would go away. And we did not create a trusted source of information that we would have, whether it's at the governmental level or medical level, that we knew that one, this is a real disease with these real deaths. We're still seeing over a thousand people a day die. We're going to have 800,000, 800,000, actually repeat that number, of people that will have died in this country in less than two years from COVID.

We didn't warn people well enough in a systematic way and, frankly, didn't have the same sort of testing that would be available that would stop people from doing risky behavior or spreading it. We didn't communicate well enough of the need for masks. We even had government saying don't buy a mask, do buy a mask. Masks do work, don't work. We debated over what kind of mask. We just had very poor communication coming out of the gate to the point now that people don't know, who do I trust anymore? Do I trust the CDC? Do I trust Anthony Fauci, who some people ... We track trust numbers in which institutions people trust. They're going down everywhere. They're going down in the medical community. They're going down in NIH, CDC, scientific community. Part of the issue also is, is that we have a decentralized system that even if we don't have a trusted source, we have the ability for people to call themselves experts on these gated communities of, whether it's Facebook, Instagram, creating YouTube channels, and so forth, where they've been able to promulgate conspiracies; the fact that COVID doesn't exist, or there are other treatments that were not proven such as hydroxychloroquine or ivermectin or others.

We have confusion that's fostered and hence ... I'm a believer in effective health communication is what we need. That's only a part of it. The communication also needs to have the trusted messengers, the high integrity sources, which are probably your listeners, the doctors, and people in the health profession, doctors, nurses, pharmacists, and others. Academic pharmacists and academic scientists and professors continue to be at the highest level of trust and ability to help people make the right decisions for themselves in health. They've either been silenced, or, in some cases, shoved aside by the cacophony of political challenges to medicine, science, and vaccines as we know it.

I never thought we would see this in this country so quickly, but we almost have a perfect storm. Then the virus outsmarts our system and our system might be a twentieth-century system that's evolving in a twenty-first-century world, and we need to do better. We're fortunate that we're having this discussion that we have vaccines and medicines. Imagine we had to wait another year for a vaccine. How many more deaths would we have had? But the fact that one person dies any day that could have been prevented from vaccines is really disheartening to those of us in medicine and public health.

Dr. Jane Caldwell:

Can you give us three ways that healthcare professionals can foster education and improve understanding of COVID-19 in their communities?

Dr. Scott Ratzan:

Well, three ways. First is to listen. Try to understand why people have not gotten the vaccine. We know that there are early adopters, people that will get the latest medicine or the latest vaccine as soon as it's out. If you remember now over a year ago, people were clamoring, well almost a year, clamoring to get the vaccine as soon as possible after it was approved. "Why am I not first on the list? Why am I not there?" And even some of the healthcare providers listening probably said, "I wasn't first on the list. I wanted to be." But there were many that we've learned, and we call these late adopters people that haven't got their vaccine yet, and we were calling this nearly over in July, and then we had the Delta variant.

We call these late adopters. And if you listen to these late adopters, they need to hear more from their doctor. They need to hear more about how this will help them have their life better and back and how this will protect them and their families from getting sick against a new variant even. You have to listen. Are they late adopters? And then address with more than one issue. It's not just take it because I say you should take it because it's approved.

The second thing we need to do is make this a social norm. It's no big deal. You know you need to carry a driver's license to drive a car. It's a privilege. Well, we might need to have vaccination cards or vaccination QR codes or something on our phones that most people have that then says, it's fine to know that I'm safe, protecting myself and others, and make that more of a norm. Not as a barrier, but as a norm.

Thirdly, we need to have physicians and others involved in their communities as leaders in the sort of health diplomacy as we called it. That we're not just talking to our patients in our practice, we're also in the hospitals where we work, making sure that all health workers and everybody who's a contractor or everybody who's there, also is one, vaccinated and practicing good public health and hygiene measures whether it's handwashing, social distancing, masking. It's at the individual level. It's at the social norm. How do we change society level? And then it's at the level of where we work and live.

Similarly, with our, like I say, the social capital where if we go to churches or sporting clubs or restaurants, or other places where we live our lives. I think it's a huge challenge to get everybody out to think that way. You would think it would be easier. But we've been fortunate by medical science solving most of the challenges, but medical science is only part of it. It's the social science that we need to get people to be vaccinated, or we'll hit over a billion dead in this country. We're nearly 800,000. It's really, really sad.

Dr. Jane Caldwell:

Well, before we close today, is there anything that you would like to add that I didn't ask?

Dr. Scott Ratzan:

Oh, wow. I mean, we could keep going, Jane, this has great, this has been a great conversation, and I don't want to end on a pessimistic note. I do want to try to end on an optimistic note and we do tracking surveys at CUNY School of Public Health. I have a study that's funded to work on what we call STRIVE, a Scale for Trust and Intent to Vaccinate where we're really looking deeply at the trustworthiness of the message and the messengers and who people get that from and then their intention to vaccinate. We're finding some promising opportunities.

We have a group in New York called the New York Vaccine Literacy Campaign where we're working with community groups to also promote vaccine literacy. And then finally, an acronym we call CONVINCENCE and CONVINCENCE USA where we're working with Vaccine Equity Cooperative and others, and CONVINCENCE stands for COVID, new vaccines, information, communication, and engagement. And the information is what we've been talking about here today. We need to be armed with the latest scientific data and knowledge and so forth. The communication, let's do that appropriately with our patients, our communities, our family, our co-workers.

Then the engagement and needing to engage in society to have, whether they're workplace policies for people that be the norm that I'm going to be vaccinated and also the norm that if I'm sick, I'm not going to go to work. Or if I feel like I'm getting COVID, I take the home test that's free or my company pays for it at work. We are going to have to get to a phase where it's just normal to test if you think you've got something or keep your vaccines up to date and wear a mask and other things as appropriate. But this is going to take an all of society approach and we don't have that yet.

Again, I want to end optimistically. We can have it and I think the medical groups will continue to step up. I work with the American College of Preventive Medicine and one of their Vaccine Confident Ambassadors, as they call it, are trying to fan out with preventive medicine docs and others, but we need to do this with everyone. I think retail pharmacy, CVS Health, what they're working on with their health hubs, I know that they've, I think, delivered 35 million vaccines. This is no longer solely in our medical practices, in our offices or our clinics or our hospitals. This is in retail sites. Eventually, we'll continue to see more devolve as we have with telemedicine also of people making decisions based upon information they get.

I think we can do it. I appreciate the opportunity, Jane, to speak with you and your group here today to hopefully put this in the right perspective and get us back to a new normal if I call it that. Or a normal where we can live amongst COVID and control it in a way and not have COVID control us, which is a fear for many people.

Dr. Jane Caldwell:

Well, thank you, Dr. Ratzan for taking time from your busy schedule to discuss COVID and health literacy. We truly appreciate your positive and innovative approach to health communications.

Dr. Scott Ratzan:

Well, thank you. I'll look forward if there's any feedback or any opportunity to do this again with you, Jane. It was a very enlightening discussion.

Dr. Jane Caldwell:

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