

NAMI's Ask the Expert: Vaccine Science

A History of Distrust, Discrimination and Access Challenges for People with Mental Illness. January 28, 2021

Featuring:

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- **Dr. Seun Falade-Nwulia**, MBBS, MPH Assistant Professor, Division of Infectious Diseases, Johns Hopkins University School of Medicine
- Dr. William Lawson, MD, Phd, DLFAPA Founder & Director, Institute for Reducing Disparities LLC
- Jeremiah Rainville, CCHW, CPRS, CCSP, CAMHFA NAMI Peer Leadership Council Manager

Dan Gillison, Chief Executive Officer, NAMI (00:00:03):

Thank you very much, Teri. And good afternoon and good mid-day to many of you. Welcome to our Ask the Expert, A History of Distrust and Discrimination of People with Mental Illness. And I am just going to do... The most important thing for me is to introduce NAMI's Chief Medical Officer, Dr. Ken Duckworth. And Dr. Duckworth, I give you the virtual floor.

Dr. Ken Duckworth, Chief Medical Officer, NAMI (00:00:27):

And I want to thank you all for joining. I don't think there's a hotter topic than vaccines right now. And we thought it would be valuable to bring an expert in infectious disease, a primary care doctor you wish you could have to talk to, a national leader in misdiagnosis of African American individuals, and the lead of our Peer Leadership Council. So the idea is we want to review the science of the virus, the science of the vaccines, address your most common medical questions. And we're going to make sure that the discussion around the history of discrimination against people of color in medicine is well developed. Then we want to make sure that the challenges that people with mental health conditions have around access is also addressed.

One thing we will not be doing today is discussing how states are organizing their vaccine plan. We have an event on February the 18th, where we'll be talking to NAMI leadership in multiple states to understand what is happening in terms of who's in group one, one B, how the state is prioritizing things.

One of the reasons we wanted to do that is it's more than we can handle in one meeting. But today, we wanted to get the science, the history of discrimination and access from a pure perspective down so that if you join on February 18, you'll have more of a background. I also want to say that this is fast moving in the states, Massachusetts, my home state just changed the rules yesterday. And so I think it's really important to stay in touch with your NAMI community, the NAMI State Leadership, pay attention in the media and figure out if you have an ability to get vaccinated or to support someone you love who needs a vaccination.

So for Ask the Expert as, once a month, we pull the best thinkers together in the country to serve our members. Today is the first time we've run a panel. So bear with us, we'll do our absolute best. The panel is quite remarkable, and I'm not going to discuss their entire biographies, because that would take up the entire session of Ask the Expert. These are remarkably accomplished people. So their bios are available if you want to know more detail about them. I'm just going to tell you a few sentences about each of them.

Our first speaker is **Dr. Seun Falade.** Dr. Seun Falade is an associate professor of infectious diseases at John Hopkins University. And she has developed a career focusing on the intersection of illness, infectious disease, mental health and addiction. She's a remarkable resource for us to have today.



Our second speaker is **Dr. Bill Lawson**, who's a long-standing friend of the NAMI family, and did much of the work around misdiagnosis of people with mental health conditions. Dr. Bill Lawson is the founding director of the Institute to Reduce Disparities, and is an adjunct professor of psychiatry at the University of Maryland. Bill has been a leader at the American Psychiatric Association, the Washington Psychiatric Society, The Black Psychiatrists of America. Welcome Bill.

Dr. Gail Daumit is the primary care doctor we all wish we had. She is a professor of medicine at the John Hopkins University, and she gave an Ask the Expert in December on reducing cardiovascular risk. Dr. Daumit has conducted much of the research which has helped us to understand what behaviors you can change and what approaches you can do to improve your health outcomes. That is available at nami.org.

Jeremiah Rainville is our fourth speaker, and he's the national chair of NAMI's Pure Leadership Council. For about a decade, Jeremiah has been a leader in the peer community in NAMI, Rhode Island. And I just want to say how grateful I am to Jeremiah, because not only is he speaking on his own behalf, but he volunteered to speak to the Peer Leadership Council to gather the first person perspective.

So at the end of today's conversation, you should have a good working knowledge of the virus, the vaccine, our unfortunate history of discrimination, which leads to distrust, how to answer all the basic questions to a primary care doctor, and what the first person perspective is on this and what you need to look out for. On February the 18th, you are all invited to our state by state conversation on access. So with that brief introduction of remarkable people, I'm going to turn this over to Dr. Seun Falade of John Hopkins University. Dr. Falade.

Dr. Seun Falade (<u>00:05:42</u>):

Thank you very much, Ken. It's such a pleasure to be here with you all today. In late 2019, reports of cases of a severe pneumonia of an unknown cause first began to come out of the city of Wuhan in China. We all now know that these pneumonias were caused by a virus, now called the Severe Acute Respiratory Syndrome, Coronavirus 2. This virus is spread from one person to another through infected respiratory secretion. As of today, over 100 million people have been infected with the virus and over 2 million people have died.

I'd like us to focus very briefly on the biology of the virus. If you look at the schematic in front of you, you see in purple, the virus similar to what is shown in the picture, the virus has a protein on its surface, which very much looks like a spike. In fact, it's called the spike protein. That part of the virus binds to receptors on our cells. And by binding to those receptors, it essentially opens the door in our cells which allows the virus to enter into us, replicate and then cause infection. Development of symptoms of disease from infection with SARS-CoV-2 is what is referred to as COVID-19. We add the 19 because this disease was first observed in the year 2019.

Most people who develop COVID-19 have mild symptoms, maybe a cough, a fever, shortness of breath, and notably loss of taste and smell have been recognized as a common symptom of COVID-19. Unfortunately, a proportion of people will get very sick. They may require hospitalization, they may need to be put on a ventilator to help with their breathing, and they could even die. We know that severe disease is largely driven by inflammation. The immune system react to infection by causing inflammation. We see in this schematic that we have an airway which leads to lung, the lungs have tiny air sacs in them, and those air sacs are responsible for oxygen going from our lungs into the blood. When there's inflammation, there's scarring of those air sacs. Those air sacs can become filled with fluid, and when that happens, a lung can no longer do the job of having oxygen get into our blood. When levels of oxygen drop, we get short of breath. If it gets to where you need to be put on a ventilator. If the levels of oxygen are low enough, it can lead to damage of multiple organs, including the heart. In addition, the inflammation can lead to disruption of the normal electrical system in the heart, so that the heart can no longer beat in its regular rhythm, which leads to an inability of the heart to pump blood around the body.

The virus can also affect many other organs in the body. It does this through inflammation, and also by causing unusual clotting. Which can lead to heart attacks or strokes if the clot is in the brain or damage to extremities if the clot is the leg, for example. We know that there are some groups of people at risk for severe disease, particularly older



people. In addition, regardless of age, people that have some conditions like obesity, diabetes, heart disease, sickle cell disease, or any condition that weakens the immune system, all these individuals are at increased risk for severe disease. Smoking also puts individuals at risk for severe disease. We also know that while severe disease can lead to death, there are a group of people that recover, but never really become themselves again. There are young people who had no pre-existing condition who died or became long-haulers. Meaning that nine months after their initial infection, they are still physically incapacitated and unable to return to work or their usual life activities.

It is frightening that over 400,000 Americans have died of COVID-19. However, there are some communities that are more effective than others. The chart shows you the relative rate of cases, hospitalizations, or deaths from COVID-19 in different ethnic groups, or races compared to white, non-Hispanic persons. You see in the first column that American Indians have 1.8 times the number of cases, four times number of hospitalizations, and 2.6 times the number of deaths compared to white non-Hispanic persons. In the third column, you see that blacks or African Americans have 1.4 times number of cases, 3.7 times number of hospitalizations, and 2.8 times the number of deaths. Similar with disparities as seen in Hispanics or Latino persons, with 1.7 times the number of cases, 4.1 times the number of hospitalizations, and 2.8 times the number of deaths. These disparities are driven by many factors, including the effects of structural racism through multiple mechanisms, including the association of structural racism with elevated levels of stress, and social economic factors.

Let's shift gears a little and talk about the intersection of COVID and mental health. We are all living through this pandemic together and can all attest to the various ways that this pandemic has negatively impacted our mental health, including through the loss of normal social interaction, loss of social support systems, and heightened anxiety and stress. There is also data emerging that people diagnosed with COVID-19 have twice the risk of diagnosis of a new mental illness in the period 14 to 90 days after their COVID-19 diagnosis. Anxiety disorders and mood disorders in particular have been noted. How about the impact of COVID-19 on people living with mental illness? Socio economic factors, and environmental factors, such as living in institutional settings with limited ability to physically dispense, lack of access to health care, and other issues.

Many in this audience work every day to address, make us all concerned about a heightened risk of COVID-19 and an increased risk of severe outcomes in this population. As recently as yesterday, data was published in JAMA which is one of our foremost medical journals, showing that people that had a diagnosis of schizophrenia were twice as likely to die of COVID-19 compared to people that did not have a mental health illness. We need to do a lot more work to try to understand these issues better.

But enough gloom and doom. This is a virus and we are humans, we have to be able to outsmart this virus. How do we get this pandemic under control? The answer is pretty clear to most people who have an understanding of the science of infectious disease control, or a knowledge of the history of control of infectious diseases. In the last 100 years, vaccines have been the most effective tool for infectious disease control. We know that vaccines lead to the eradication of smallpox. Over 2 to 3 million lives are saved annually as a result of vaccines. And it's also important to note that although the first vaccine was developed in the 1700s, vaccines we use today are markedly different, both in terms of how they're produced and how effective these vaccines are. Vaccine development is driven by advances in science.

Regardless of how a vaccine is developed, however, they all have the same underlying principles, they help the immune system to fight infections faster and more effectively. A vaccine does this by presenting the immune system something that is either a piece of the virus or something that looks very similar to the bacteria or virus. However, that piece that is presented to the immune system cannot cause severe disease. The immune system responds to this material, which it recognizes as foreign, we refer to this as an antigen, and then produces an immune response to fight the foreign material. It does this commonly by producing antibodies. What is special about vaccines is that it also keeps a memory of the antigen and its response, so that if the body and by extension the immune system is presented with the infection again, it quickly calls that memory, calls the antibodies, so that it's able to address the infection quickly, neutralize the infection, prevent or quickly control the infection.



Vaccines are made from a variety of substances. The key thing is that the substance has to look enough like the organism that causes the infection, so that the body is able to produce the right antibodies that are certain to be powerful enough to control the infection. So that vaccines can be made from a weakened form of the virus, unique pieces of the virus, a chemical that the virus creates, or substances that scientists make that are similar to parts of the virus. If you focus on the schematic, you will see again the depiction of the virus with those spikes. The vaccines we have available right now all target the spike protein. But they all target the spike protein in different ways. So for example, the protein based vaccines have a spike protein that has been purified, injected directly into a person so that the person can produce antibodies. The viral vector vaccine, again, has the spike protein which has been purified, it's put into an adenovirus, which is a vector. So that's just a way to get the spike protein into the human. The body produces the spike protein, and then is able to produce an antibody response.

I'm going to focus on the mRNA vaccine because the two vaccines that we currently have available in the US, the Pfizer, and Moderna vaccine are mRNA vaccines. Everybody hears the term mRNA and immediately becomes frightened. So I'm going to talk a little bit about what mRNA means. In brief mRNA is a genetic material that contains instructions for making a protein. So the COVID-19 mRNA vaccine contains a synthetic mRNA, which is a set of instructions for making the spike protein. When a person gets the mRNA vaccine, the person cells are instructed on how to produce the spike protein. So just the spike protein, none of the other protein in the virus. And so if you remember the only role the spike protein has is attaching to receptors on the cell and opening the door for the virus to enter the cell.

So that really all the body's producing is the key. And the reason that is important is because the body then develops antibodies to the key. So guess what, when a person is presented with a real infection, because the immune system has seen something similar to the spike protein, it immediately developed antibodies, the antibodies attack the spike protein, and because the spike protein has been neutralized, then the door cannot be opened so that the virus cannot enter the human cell. Without entering the human cell, the virus cannot cause infection. And this is the mechanism by which the mRNA vaccines protect from COVID-19 diseases. What are the other components of mRNA vaccine. In addition to the modified mRNA, and coding for the SARS-CoV-2 spike protein, it has lipids because we have to protect the mRNA and so lipids including cholesterol. We have buffer salts, sugar, and water. These are the constituents of the mRNA vaccine.

The other thing that I think is very concerning to everyone is how quickly the vaccines were developed. And the question everybody asks is, "Are we sure they're safe? They did this so quickly." Like we mentioned, we've had vaccines for over 100 years. And so we have very established processes for testing the vaccines, and in particular for making sure that they are safe. And so this is a series of phases of clinical trials. In Phase One trials, we have very few people, and the key question we're trying to answer is whether the vaccine is safe. Was that done for the mRNA vaccine? The answer is yes.

In Phase Two trials, we have several hundreds of volunteers. And the key questions we're trying to answer in those trials are, what are the most common short term side effects of the vaccine? How does the immune system respond to the vaccine? And that is the vaccine really effective? And yes, that step too was done for our current vaccine.

In Phase Three trials, we have the really large trials where we test the vaccine in thousands of people, and then compare the rate of disease in people who got the vaccine to those that did not get the vaccine. And also get an answer as to how well the vaccine protected people from disease. It's only after the phase three trials have been done, that the FDA reviews all the data, including the effectiveness data, and the safety data, and then makes a determination as to whether they are going to approve the use of the vaccine. And yes, we did have Phase Three trials for the currently available COVID-19 vaccines.

And so what did those trials look like? The investigators recruit patients, and then randomly assign people into two groups. So one group gets the treatments, which in this case was the vaccine, and the other group gets something we refer to as a placebo. Both the vaccine and the placebo look exactly alike. The patients don't know what they got. The investigators don't even know who got what. And then people are followed up in the two arms. In follow up, we see



how many people in each group develop the disease. And then we do something called unblinding, where the one or two people that know who got what, look at the outcomes in both groups and compare results.

And this was done for both the Pfizer and the Moderna vaccine. What you see is that the Pfizer vaccine was evaluated in over 43,000 adults, over 18,000 got the vaccine, over 18,000 called the placebo. And although a similar number of people got vaccine and placebo, there were only nine cases in the vaccine arm. And most of these cases occurred soon after getting the second dose of the vaccine because people had not had the time to develop protective levels of antibodies that are required to prevent infection. Compared to the nine cases in the vaccine arm, there were 169 cases in the placebo arm. So the placebo arm is the group that got the "dummy," it looked like the vaccine, but was not the vaccine, which translates to a 95% effectiveness in preventing COVID illness. There was a similar thing done for the Moderna vaccine with 30,000 adults. Similar numbers in both the vaccine and placebo arm I apologize, that should be placebo. 11 cases in the vaccine arm and 185 cases in the placebo arm. Translating to 94% effectiveness in preventing COVID illness.

It's important to note that these trials were representative in terms of the populations. There were older people, younger people. Both vaccines had over 10% of the population as African Americans, they also had people of Hispanic and Latino descent in the trials so that we are able to see that across groups this vaccines work to prevent COVID illness.

So what should you expect when you get a vaccine? For both these vaccines, you're going to get two shots. For Pfizer the shots are three weeks apart. For Moderna, the vaccines are four weeks apart. When I got my vaccine, it was in my upper arm. And I'm going to confess that my arm did hurt. And we know from the clinical trial that over 50% of people that get the vaccine will have some discomfort in their arm. Some people will have a mild fever, and some people will have chills. But this symptoms go away completely within 48 hours. It's also important to note that it takes approximately two weeks after the second shot to get the maximum protective effect from the vaccine.

We also do need to know that even after we get the vaccine, we all have to continue to do our part to prevent transmission of the virus. Continue washing those hands, avoiding crowded places, wearing a mask and trying to stay six feet away from people we do not live with. Other things to remember. Although the mRNA technology is new, it's actually been studied for decades. So for example, there was an mRNA vaccine developed for another disease called Zika virus. Because the mRNA and lipid complexes are unstable at room temperature, the currently available vaccines have to be stored at very low temperatures. The vaccines do not contain preservatives, they do not contain heavy metals, or animal products. And importantly, the vaccine mRNA does not integrate into our DNA and you will not get COVID-19 from the vaccine. Thank you very much. I will now pass the baton to Dr. William Lawson.

Dr. William Lawson (<u>00:28:39</u>):

Thank you very much Dr. Falade for a very comprehensive discussion. Caught a lot of material, and I strongly recommend that we try to keep all of what she said in your head while I take it into a slightly different direction. And I want to move the next slide. There we go. Just want to note that we've recognize for a long time that there are disparities in terms of treatment, and availability of treatment for different populations, not only in low income people but also racial and ethnic minorities. Much of this was really emphasized by one of our former Surgeon Generals, Dr. Satcher, who not only did he demonstrate that there were disparities in terms of care for general medical conditions, but also he found large differences in terms of access to services for people who had mental disorders and related problems. Next slide. Part of it has to do with the problem of diagnosis. We have known for a long time that the great differences in terms of... Or simply the prevalence of mental disorders. And yet when we look at careful studies using standardized instruments, we find that there are not substantial variances across racial, ethnic, or even income groups. And part of the reason has to do with a lot of misdiagnosis. Part of it has to do with races and every perceptions in our society.

For example, one of the first diagnoses that were applied to African Americans who're suffering... during slavery times was referring to people who did not do what the master wanted, or people who ran away from slavery, a disorder



called drapetomania. Again, the idea was someone who leaves slavery who had to be mentally ill. With time we can look at these things as absurd. But on average, and what we've recognized for a long time is that many folks saw people of color as having... That some were having the same kind of sensitivity and mental apparatus. And as a result, disorders such as depression, bipolar disorder, and post-traumatic stress disorder were simply not recognized. On the other hand, other disorders such as schizophrenia were often over recognized and over-diagnosed. Next slide.

And what happens with misdiagnosis? Part of it is that the treatment is delayed or even refused. Novel treatments are viewed with suspicion, and unfortunately, because people do not get the appropriate diagnosis for standard treatment, they may seek self-treatment from drugs of abuse. Next slide. So the result is also limited therapeutic options. What we find is that diagnosis is best made when working with people that may be culturally competent to recognize the specific nuances in terms of both diagnosis. Lack of access to evidence based therapy, an ongoing issue in terms of many communities, and a lack of contact with mental health and substance abuse providers specialist.

The number of African Americans who have mental health providers versus psychiatrists, less than 2 to 3%, among Latinos is even worse. And many people find that the stigma of mental disorders is such that we were relatively thought of to be bad to have a conduct disorder to be antisocial, to be a criminal, than to be looked at as having a mental illness. Next slide. Now, there's one face of mental illness, certainly an opportunity, check it out and see A Beautiful Mind, which shows... This is a case of John Nash, a person who's diagnosed with schizophrenia, but who also went on to win a Nobel Prize. That's one picture of mental illness. Next slide.

But another one is the face of mental illness, especially in African Americans. For example, this excellent book by Jonathan Metzl noted that schizophrenia became a black disease. How did that happen? Well, the idea was that there was a relationship between community violence and psychosis. And it fit in with the idea that some mental disorders are in fact, a form of community protests. And as a result, such disorders as schizophrenia became looked at not as a mental disorder per se, but as a kind of real cause of violent behavior. This is an old advertising showing that one of the usefulness or one of the drug of mental disorders is that it's used to deal with assertive and belligerent behavior. So now we've gone through a model in which mental disorder has something that happens to people who are in distress or who have problems to look at as a face of people who are destructive to society. Next slide.

Now, how does this tie with everything you've heard so far in terms COVID-19? Well, we'll go back and note again that this was a novel disease, no built in immunity, and up until recently, there is two vaccines, they've just been approved, there were just no available treatments. And so the only way to prevent the spread of it was social isolation. Why is that relevant? Next slide. Well it's relevant, because, again, the experience that we're having in terms of disparities in care, in terms of people who have COVID-19 or lack of treatment lives very well to the experience with it in terms of looking at mental illness, especially for people of color. If we go back historically, we find that people who have mental disorders at a time historically had no significant useful treatment. They were simply put in state hospitals for long periods of time.

But the solution was to release folks from these hospitals. And the result was, many of them ended up in the correctional system, or in the street, because of limited access to treatment, and, again, the perception, as we noted earlier, that certain mental disorders was supposed to be associated with dangerousness. Next slide. And what we find interesting enough is African Americans for instance, and Latinos are much more likely to be incarcerated substantially in the United States, which has the largest incarceration rates in the world. So rather than having treatment, people with disruptive behavior much more likely end up in the correctional system. Next slide. And not only is it a problem with people ending up incarcerated, but it is also a source of morbidity. Because people who are recognized as having been involved with the criminal justice system are at greater risk of being killed by the police. And this is just showing that African Americans, Native Americans are more likely to be killed by police than other groups. Next slide.

Now, the other impact of being put in the criminal justice system is that, unfortunately, it is not a system that's designed to provide treatment. What we find is that one it's grown in the last 30 years, over 300%, only recently has the number of started coming down. Next slide. And as a result, what we find is that people who have mental disorders are



more likely to end up in that system. People who have substance use disorders are more likely to end up in the system. And it's now become a major source for infectious disease, especially for HIV and potentially can become an important vector in terms of Coronavirus as well. Next slide.

So the pandemic has changed the lives of psychiatric patients forever. The risk of being incarcerated and ending up in the street has increased the likelihood that psychiatric patients...just shared the data showing that people with schizophrenia are more likely to die from this disorder. And also, it reflects the historical problem that a correctional system not only is not a good place to get mental disorders treated, but it also is a risk factor in terms of severe and chronic illnesses. Next slide, best steps.

Part of the problem also is getting people in terms of treatment, and getting them vaccinations. And part of that has to do with the attitudes of the community. Many people are aware... I've talked to a lot of people who claim that they are aware of the Tuskegee Syphilis Study, but when you talk to them in detail, they not really know the details. But the key point, of course is that this was a study supported by the federal government in which people who had syphilis were studied to look at the long term outcome. Probably, it studied with African American who were not told that they were in a study, they were not... Even though antibiotics eventually became available during the course of study, were not made available. And the country under President Clinton eventually issued an apology.

But it led to a deep distrust of research and investigators in the African American community. And it's consistent with fact that many investigators are socially distant, and do not have a very good social network with people of color. And it has led to continued concerns about exploitation. Myself and another Dr. Nwulia curated a study in which we showed that African Americans are much more likely to feel that research is going to lead to exploitation rather than the treatment. Next slide.

Are racial and ethnic minorities less willing to participate? Actually, that's sort of true. We know that there is less data available. We know that there's less than 5% of clinical trials involved with people of color. Less than 1% of studies in biological psychiatry have ethnicity identified. So we know that there's limited data about people of color. Next slide. But when we've done studies, and this is one among many, it has shown that they're very small differences in the willingness of minorities who do not want to participate in health research. Most African Americans when given the opportunity will participate, reluctantly, but they will participate. Next slide.

So what we have then is a system in which we have less access to treatment, less access to information from research and a system that has problems in terms of access to treatment itself. This just shows our current system in there. Because of stigma, lack of knowledge, mistrust, insidious onset of mental disorders, people end up... Perhaps they're lucky to see a general practitioner, if they're not, end up going to the police first when they first have mental problems. This lack of access, unaffordability and inefficiency of healthcare, and that with then being incarcerated, or staying long in an issue with the criminal justice system. Or they may end up strictly in the emergency room. Then they going to a mental health clinic, long term dependency, and what we find is a substantial percentage drop out of care. So treatment may be delayed for over a decade when diagnosis was made, and tie that in with our already stated data showing that disorders such as COVID-19 can precipitate mental problems that may go unrecognized. Next slide.

So what we need to do is look at how do we want to approach this. Through treatment or with rehabilitation. And unfortunately, many people do not get these in a punitive system. So we need to look at ways to ensure that we have a system that allow people with problems related to mental disorders, whatever the cause, will help with stress from COVID-19, from underlying biological problems. Whatever the cause, they end up in treatment, rather than being put in a system that can actually worsen the condition that they have. Next slide.

So psychiatry is one of the most rapidly changing fields of medicine, we have a lot of technological advances that could potentiate the field of psychiatry. Also innovation is important to improve the efficacy of treatment, but the question is, will the vulnerable and underserved get the vaccine and treatment? And most importantly, who will be the advocates, because many of these individuals themselves are not in a position to become advocates for these problems. Now going on to Dr. Daumit.



Dr. Gail Daumit (00:45:00):

.... it's good to maybe virtually see some of you that I saw last month. Happy New Year, I hope everyone's well. I'm so honored to be on this panel with Dr. Lawson and Dr. Falade, and to share some of my thoughts with you.

So I am the person that's supposed to, I think, combine some topics and issues from Dr. Falade and Dr. Lawson talk, which is really to think about COVID-19 vaccines in our communities for people living with mental illness. How can we think about access? How can we think about uptake and acceptability? And really just getting vaccines out there to improve everyone's health? I think we would all agree that in our communities of people living with mental illness are a vaccine priority group, they are specifically designated as such for those that are living in congregate living facilities, or those that have certain severe medical comorbidities. So we're not talking again about any local geographic distribution of the vaccine, but kind of just some more general thoughts about how we can improve people wanting to take the vaccine when available to them. And how to make sure that when it is available, that there is actually access and people can get to appointments.

So I think when we think about vaccines in general, and people's willingness to receive vaccines, some of the things that we think about, and this is for everyone, kind of perceived risk of getting the illness or the disease the vaccine is supposed to prevent. Belief in whether the vaccine would be effective people peers, and their social networks that they interact with. Health professional influence, is very important also.

So let's talk about these areas for a moment, I think for most people, the perceived risk of COVID is high. I wish the whole public could have heard Dr. Falade talk, because I think that hopefully she's convinced all of you if you were unsure, or giving you the tools to show that the vaccine is effective. And I think that we need to think about how we're communicating in our communities, across with our own family members, people we care for, people from the same backgrounds as us, people from different backgrounds than us, and how we can talk with them about the vaccine and kind of encourage them to take it.

I think that one of the things that this vaccine rollout has done is that health professionals have been pretty much in all places, one of the first groups to receive the vaccines. And so health professionals and those kind of frontline health workers may have unique opportunity. We always speak with our patients about vaccines, but we may have a unique opportunity here with COVID to role model and show that we believe that it's a good thing to do with minimal risk. I think many of you who are with us today are in settings where you're working with peers or you're working in groups of people living with mental illness, and again, trying to somehow leverage that even during this time of isolation so that people can feel comfortable that others that they know are getting the vaccine. With some of the prioritization, it may not always be that family members are getting the vaccine at the same time as their loved ones with mental illness, because people may be in different priority groups.

I think in terms of thinking about more system issues and structural issues. So access in general, in geographic locations we aren't going to talk about, but I think the kind of when vaccines are available for people living with mental illness. Really trying to think about access. How can we promote access, whether that's transportation, assistance with making appointments for people that would include online appointments, how those are done. I just spent most of this week trying to get my elderly parents vaccine appointments online, which was a challenge for me, and I'm very savvy with a computer. How can we work on assets? How can we kind of advocate in our own communities for different ways of scheduling potentially, that would prioritize these communities so that other means could be used for scheduling.

And that kind of brings me to the last point. And I do want to reference this piece that came out in JAMA Psychiatry at the end of last year, which provided some of the points for what I'm saying, is that thinking about population level monitoring. So yes, we know that states will be monitoring who gets vaccinated, but in our own communities, the people that we take care of, is there a way? How do we want to think about making sure that no one is left out? Meaning that if you're leading a community mental health center you yourself may not have access to the vaccines, but how might you work to think about tracking or making sure that the population of people that you are caring for is getting vaccinated or whether you're in another type of communal settings.



So those are just some of my thoughts. There's no right answer to this, but I think that, hopefully, we can come away with some things that we all can do as individuals, and also in our professional roles to improve access and uptake of COVID-19 vaccines. I'll stop there and introduce Jeremiah Rainville.

Jeremiah Rainville (00:52:34):

Thank you for having me here. Thank you, Dr. Daumit, Dr. Falade and Dr. Lawson for your input and your expertise in this. So I'm going to talk a little bit, I can't move... Oh, there we go. So the first thing I wanted to talk about is a lot of people are having a hard time with COVID-19, the social isolation and things like that. But I want to remind people that there are resources out there like... And this is to my peers, there's like Zoom and other streaming platforms like Microsoft meets and GoToMeeting and Google Meet that people can join support groups and talk about their issues and what's going on with them. There's also phone support, there's online support groups, there's chat lines, blogs, message boards. So people mostly know this, but I feel that because of the uncertainty with the virus, people can get a little more nervous around seeking support. I mean, I know just in my state, some people that I've worked with seek support, so it just has to be something that's welcomed. There's also Facebook, LinkedIn, Alignable, Twitter, Instagram, where you can connect with people. There's trainings and classes online, like Peer-to-Peer, Connection, E-CPR, Mental Health First Aid for Youth and Adults, professional trainings, NAMI Basics, NAMI Homefront and In Our Own Voice.

So I just want to let people know that the peers that you work with are working very hard to stay connected. And even the peer support specialists or key recovery specialists are actually getting... Are on top of the list of getting vaccinated because they're frontline workers. So they're being protected, which may become easier to do in person peer support in the near future.

So what peers are saying, so I asked a lot of people what they were experiencing, what they think about the vaccine and how that's going to affect them. So a lot of people with mental illness have underlying or compromising conditions that make people living with mental health conditions be at risk to develop the Coronavirus. I haven't really heard a lot of complications yet with a vaccine. People say with the second shot they've had, they felt like really exhausted and tired and just slept. So I was hearing that. And then there was a peer that was a firefighter, said that had the vaccine, didn't have any reaction.

But people in nursing homes and assisted living and HUD low-income housing residents should be a priority. And I know in my state, they're actually going into public housing and serving them the vaccine. So I think it's moving in a positive direction, it's slow. Not everyone can get it done at once. And then some people say going to wait until others get the vaccine to see what happens. And that was a common theme when I was talking to peers, they're just afraid of the shots. I don't think children can get it. So that's also a concern with kids that have parents. So they're thinking maybe in the future, they'll have like a nasal vaccine maybe. And that could be positive, like they have the flu vaccine because a lot people don't like shots, and that's a person's concerns.

So the population that I care about is the houseless, is veterans, people in prisons and hospitals, BIPOCs or black, indigenous and people of color, the LGBTQIA community, older adults, and people with mental health conditions, and with other beliefs are at risk, because of the mistrust with providers because of stigma and stigma brought upon themselves. So real quick, I'm doing a peer to peer course with one of my coworkers. And we're on chapter three, and chapter three, they ask, "How many mental health professionals have you seen to get a correct diagnosis over the years?" And there was this one person who was black and I talked to him, and I said, "Did you feel any bias when you saw the doctors?" And he said, he hears a lot of that, but that's not his first thought when he goes to see doctors. So I think that's good, because I think people are getting a little more trustful with treatment and stuff like that. I know this bias and things like that, but people are getting cared for either by their peers or doctors or things like that.

And again, this mistrust, mutual aid groups could help people who never been able to get support. And some people aren't willing to get the vaccine, they're still scared of it, they have concerns of getting sicker for people who live alone, and who is going to take care of them if they get sick. So people live alone, and they have pets or responsibilities, how are they going to be cared for when they don't have people to take care of them? So I think that's a concern. So



mutual aid groups are available that could provide food and PPE to at risk populations. So there's a lot of support out there for people. And peers who are working in the public, essential workers have fears of not receiving the vaccine. So far my state people have received vaccine that are peer supporters, and even we volunteer in the hospitals, not currently. But they're actually asking volunteers that work at hospitals, to get the vaccine, which is a very good sign for peers that peers are important. So that's what I just wanted... I really wanted to say that, that peers are all important.

And the bigger picture is, Rhode Island has the second highest rate of risk in the US. And I just think that's because we've done a lot of testing, and our governor was really kind of on top of that and the Department of Health. So I feel just more people per population in Rhode Island have been vaccinated. So the attention is they're at the highest rate of the virus, because they spend just more tests, and either... There's nothing wrong with that, but people in other states have to get tested, especially if they want to work back in the public, and things like that, and have less fear around that.

And really, it's just a leap of faith. Trying to live in a system, even when there is implicit bias or whatever. A leap of faith is really what's needed. And that's my talk to you guys. Thank you for having me here. It was a pleasure speaking to all of you, thank you.

Dr. Ken Duckworth (<u>01:01:36</u>):

Thank you to our panelists for fantastic information. And I'm going to try to summarize the questions, and occasionally I'll direct them to you and some I'll just toss them up. The first question is, how do I know I won't get the virus? And Jeremiah raised this in his conversations with people from the vaccine. So Dr. Falade, let's go back to the lock and key metaphor. This seems crucial, because as Jeremiah was saying, people who are living alone are afraid no one will care for them if they get sick. And I'm just going to take that along with a question, can I get the virus from the vaccine? I want to go back to that, because that seems to be a core conversation point. Thank you Dr. Falade.

Dr. Seun Falade (01:02:26):

Thank you Ken and that's a great question. And the simple answer to that question is no, you cannot get the virus from the vaccine. And the key, like Ken was saying is because the vaccine does not give the instructions to create the virus. To get the infection, you need the whole virus to get into you, and then once the whole virus gets into a person, it replicates. And it's that replication, that is making copies of itself, that leads to infection. What the vaccine does is give instructions for the protein in the spike protein. So remember, it's only that small piece of virus, the spike protein. And the spike protein is not what causes infection. The only thing the spike protein does, is open the key in human cells. Sorry, open the door. So it's a key that opens the door in human cells that allows the virus to enter. So that if you have the vaccine, what it does, is that it covers the spike protein, it neutralizes it. And I'm sure although that's the medical term we use, everybody understands what it means to neutralize something. So that the antibodies your system has learned to produce by getting the vaccine immediately neutralizes the spike protein so that the key no longer works. The door can't be opened, the virus cannot enter your system and lead to infection.

So I'll go over this again. You cannot get the infection from the vaccine because the vaccine does not have the virus in it. You need the whole virus to get an infection, the vaccine does not have the whole virus in it.

Dr. Ken Duckworth (<u>01:04:35</u>):

Dr. Falade, I use the metaphor with one of my patients, it's different than yours, but see what you think if this is scientifically valid. My metaphor was this, you have a suitcase full of viral particles, and you need to bring the suitcase into your home for it to infect your home, your home being your body. And the vaccine gives you immunity to the handle on the suitcase. So you cannot pick it up, but it's only talking about the handle, which is the same as the key. So the idea is the entire suitcase or in your case, the entire viral package cannot enter your body. So I thank you for that. Do you think that metaphor is accurate? Is it the same idea?



Dr. Seun Falade (01:05:19):

I love your metaphor Ken, I'm going to have to steal it.

Dr. Ken Duckworth (01:05:22):

Yeah. I'm honored that you would even consider this. I had COVID-19, and I had tested for antibodies. Should I still get the vaccine?

Dr. Seun Falade (01:05:34):

Yes, you should definitely get the vaccine. We know that people that have had COVID-19 before can get reinfected with COVID-19. The data we have currently suggests that any protection someone might have from having previously gotten COVID-19 before only lasts for about two to three months. So that the recommendation is for everyone to get the vaccine, regardless of whether they've had COVID-19 before or not.

Dr. Ken Duckworth (01:06:09):

Excellent. It's a question about the distrust issue. And I'm going to throw this up into Dr. Lawson and Jeremiah in particular, what do you think are the most important messages? Because I think there's some scientific agreement that this vaccine has been tested in multiple populations is safe and effective, it's probably not perfect, and it is possible, of course, to feel bad the day you get it. But what do you think are the most important messages to convey? If you agree with those fact patterns, that our colleagues have summarized? What do you think of the key words used convey information, particularly to communities that have been mistreated, and we don't want them to miss the opportunity to avoid this deadly virus?

Dr. William Lawson (01:06:57):

I think the key thing is the... I was surprised, actually to hear of a group of physicians, half of whom said that they were not going to take the vaccine until several other people had taken it first and then they will see what happens. I reminded them that the biggest risk for getting the virus after the vaccine but from not taking the vaccine in the first place and the evidence.

And part of that I think was that... Dr. Falade did an excellent job of showing this, and underlying is the idea that somehow there's some group that wants to do it. For African Americans and Latinos, that they're going to put something in the medication we're not aware of, or that this is a group that is distant from the rest of us. And in fact, we do have a problem in which we have people who provide these services are very different, both in terms of their background, their community involvement, and others. So that they are seen as distant.

What we found very helpful is when we have providers getting involved with the community programs and cultures. We've begun working with church groups, which has been very effective, both when we had the HIV problem, and now in terms of letting people know that the providers themselves are part of your community.

Dr. Ken Duckworth (01:08:39):

Trust within the community sounds important Dr. Lawson.

Dr. William Lawson (<u>01:08:42</u>):

Exactly. Trust within the community and community involvement.

Jeremiah Rainville (01:08:47):

I think also people have to do their own research and get the information that they need from reliable sources. And the other thing that's really important is don't forget about the support that is out there. So peer support is out there,



medical support is out there. So people are already on the phone or through a computer, you don't have to feel like you're an outcast on this.

Dr. Ken Duckworth (<u>01:09:21</u>):

You are not alone. The whole NAMI slogan. This is actually true, and that you can talk to other people problem solve. Doctor Daumit another question. I have a sibling who has bipolar disorder and is pregnant. Isn't it true that the vaccine has not been studied on people who are pregnant? And when might we anticipate that that population? And then you could say children, as well, that haven't really been studied, when might we anticipate that?

Dr. Gail Daumit (<u>01:09:54</u>):

... Dr. Falade to help me with this response. But my understanding is that pregnant women are able to be vaccinated, although there haven't been studies in pregnant women that there's no belief that if it's to risk my own employees who is pregnant, just got vaccinated at Johns Hopkins. And I don't know... I'll let Dr. Falade finish in case I'm misspeaking.

Dr. Seun Falade (01:10:21):

You are completely correct, Dr. Daumit, pregnancy is not a contraindication. In fact, pregnancy because it's a risk for severe disease is a reason to get vaccinated for COVID-19. The vaccine was not studied in pregnant women, because typically we don't study things in pregnant women as one of the first groups. The only contraindication, to getting the COVID-19 vaccine right now is if you are under the age of 18 for the Pfizer vaccine, or 16 for the Moderna vaccine, so that's people 16 and older can get the vaccine. The only reason not to get the vaccine is if you have a history of a severe allergic reaction to any of the components of the vaccine. So pregnancy is not a contraindication, pregnant women should be vaccinated.

Dr. Ken Duckworth (01:11:20):

Okay, that's very helpful, because I think there was discussion that it had not been studied. But what you're both saying, from a science point of view, is there's no reason to stop because it's safe and effective. That is a population that can use it. Kids are obviously different.

A question is asked, "I have an allergic reaction to an antibiotic, is that going to make me more likely to have problems with this?" The allergy isn't described whether it's a severe allergy like anaphylaxis, or hives and itching. It isn't stated. But how do you think about allergic responses to other medications?

Dr. Seun Falade (<u>01:11:59</u>):

Yeah, so that's a really good question. So one of the things that was observed when we first rolled out the vaccine first in the UK, was that there were two people precisely who had a severe allergic reaction after they got the vaccine. And in response to that, the recommendation is that if you have a system of severe reaction, so I'm not talking about, "Oh, sometimes I get an itch." A severe reaction to other things, then you should talk to your doctor to weigh the risk benefits of whether you should get the vaccine. So if this is a simple reaction to an antibiotic, so for example, "I have a penicillin allergy," I still would get the COVID-19 vaccine. So the only reason to talk to your doctor about whether you should get a vaccine or not, is if you have a history of severe life threatening anaphylactic reactions, and even then, please still discuss the risk benefit with your primary care doctor.

Dr. Ken Duckworth (<u>01:13:04</u>):

Excellent. We have a couple questions about prioritization groups, and obviously, this is a discussion. Massachusetts has prioritized individuals in health care, nursing homes, congregate living situations like prisons, a question which we're not going to be able to really answer today because states are making their own decisions. February the 18th, we'll be having a state wide discussion to get more insight into how to find information about your state. The question is really,



shouldn't people with mental illness based on the fact that people with schizophrenia are more likely to have bad outcomes be considered a high risk group?

Dr. Gail Daumit (01:13:46):

Yeah, go ahead Dr. Falade.

Dr. Seun Falade (01:13:48):

No, please go ahead Dr. Daumit.

Dr. Gail Daumit (01:13:50):

I was going to say, we can say it's sort of like you answered it Dr. Duckworth. We can say that they are, but that might not affect... Let me put it this way, I think the most important thing that we can do right now is to help our communities that we're working with, or that we are part of, that we're serving, get the vaccine when it is available to them. And at the same time, we can advocate for prioritization. But I think that many states are prioritizing those in congregate housing, and many states, I believe, are prioritizing those with different medical comorbidities, such as diabetes or obesity, whereas the people with comorbidities might not be at the top. Like people over 75 they may be in front of adults who don't have comorbidities. And since so many people living with mental illness do have those medical comorbidities, I think that they would fall in like a middle to high category.

Dr. Ken Duckworth (01:15:10):

So it's going to be state by state.

Dr. Gail Daumit (01:15:13):

State by state.

Dr. Ken Duckworth (01:15:13):

Very important. This is not a national, federal, response, different states are organizing it differently. And hopefully we'll learn from this experience. Hopefully people are studying the different responses in the different groups.

A question Dr. Lawson about the Tuskegee Study, how recently was that again? People are trying to make sense of the fact it's not like it wasn't that long ago. And I think it's important to really reflect on the timing of that study. Dr. Lawson.

Dr. William Lawson (01:15:45):

Yeah. It was started in the 30s and continued to... Actually it exposed back almost in the 60s. I found out apparently that my family physician was involved in the study, and he admitted he didn't know until afterwards what was going on. When the study started their were reliable treatment for syphilis. And at that time, as they made adaptations, let's see what happens with mental illness. The fact that they selected African Americans, very, very questionable, based on idea that time that syphilis is more common in African Americans. And it wasn't.

And the other problem was that when the treatment did become available, the subjects weren't informed. It didn't come out until a popular local newspaper actually publicized it. So this was a very terrible example of how not to get community involved for-

Dr. Ken Duckworth (01:16:58):

And what was the year that study was revealed by the media?



Dr. William Lawson (01:17:02):

Yeah. I think it was between 50s and 60s, I don't know the exact date. The General that actually did this was...

Dr. Ken Duckworth (01:17:17):

Yeah, it was later than I thought. It was more recently than I thought. Now, one of the questions is, how can you reassure somebody that the Tuskegee Study could never happen again? Having seen what actually happened by people being paid for with federal tax dollars, they did not have an intention to take care of their research subject. How do you think about that, Dr. Lawson, in terms of, can you really reassure people? Or you really just say, "We doing our best to learn from experience." How might you think about that?

Dr. William Lawson (01:17:51):

I beg to think of the latter, unfortunately, may be the case. There's actually another study that just popped up in the news, again, into one of our local communities, about Illinois State looking at the effects of lead poisoning on the community. And they unfortunately did not let folks know whether or not kids were exposed to lead paint. There's also a study done in the VA system, in which they wanted to look at the effects of treatment for hepatitis C. And they did not inform the people of the results because this is my gosh... Then if we found out they had it, they would have treat it. So this kind of thing, unfortunately, is still going on. The way to do this, community advocacy. NAMI serves as watchdogs in terms of what's going on, we now require investigators to learn about this history to be able to get a grant, a federal grant to participate in the quiz, but that in itself may not be enough. So we need to have quasi vigilance.

Dr. Ken Duckworth (01:19:07):

So we've come a ways we have a ways to go, do you agree Dr. Lawson?

Dr. William Lawson (<u>01:19:10</u>):

Absolutely.

Dr. Ken Duckworth (01:19:11):

Question to of the panel, would you take the vaccine, and do you have any anxiety about taking the vaccine? Let's go in the order of the speakers, Sean Falade what do you what do you have to say?

Dr. Seun Falade (01:19:23):

I was very excited to take the vaccine. I have-

Dr. Ken Duckworth (01:19:26):

You already took it, and it hurt a little bit as I recall.

Dr. Seun Falade (01:19:29):

Yeah.

Dr. Ken Duckworth (01:19:31):

Dr. Lawson, you're our second speaker.

Dr. William Lawson (01:19:33):

I took it this morning.



Dr. Ken Duckworth (01:19:35):

And how do you feel now?

Dr. William Lawson (01:19:36):

I actually feel fine. They told me about the big needle. The first one I didn't feel it, the second one I don't feel it. But the needle does look formidable, bigger than my demo needle.

Dr. Ken Duckworth (01:19:48):

Got it. And you gave a nice talk the same day, right?

Dr. William Lawson (01:19:53):

Right.

Dr. Ken Duckworth (01:19:53):

So clearly, you're hanging right in there. Dr. Daumit, do you have any concerns about taking this vaccine?

Dr. Gail Daumit (<u>01:19:58</u>):

Nope, I'm getting my second dose on Saturday.

Dr. Ken Duckworth (01:20:00):

Fantastic. Jeremiah Rainville, head of our Peer Leadership Council, do you have any concerns about taking this vaccine?

Jeremiah Rainville (01:20:08):

I would be more than happy to get it. I think the quicker people can get this maybe things can surely go back to the way they used to be in person. So I feel that it's important to take it. Especially when I live with a person at 77, and another person, and those two people aren't willing to get it. So I least need to protect myself and at least them from getting it too.

Dr. Ken Duckworth (01:20:40):

It's a love act to protect them from you bringing it to them. I'll speak for myself as the moderator, I can't wait to get it. Because to me there's a psychological and mental health impact which most Americans have experienced, of the isolation. Human beings are connections, they're often, low key antidepressants with very few side effects. Connections are really powerful for people, and the longer we don't have a vaccinated country, the more time we're going to spend on Zoom, and on these alternative ways to try to connect.

So it's just about time for us to wrap up, I'm going to ask each of you to give one final thought or observation based on any aspects of this. The science, the challenges of access, the understandable history of distrust people of color around medical science. I'm going to give each of you a floor to summarize, one thing you'd like to say. And of course, Seun, will begin with you because you are our first speaker.

Dr. Seun Falade (01:21:50):

I want to say that the vaccines are key to digging ourselves out of this. And I really like Jeremiah's point, in addition to taking the vaccine to protect yourself, everybody that takes the vaccine contributes to the larger protection of the whole society from COVID-19 infection, which is the way we're going to get through this pandemic.

Thank you again for the opportunity to speak.



Dr. Ken Duckworth (01:22:20):

So Dr. Falade, it's really for you and everyone around you. Because if you are protected, you're much less likely to spread it. Although I don't think the science on that is perfect yet, we still have to learn. Is that true?

Dr. Seun Falade (01:22:35):

Well, so we know from herd immunity. So there is something called herd immunity. So that if you can get... It depends on the vaccine, it depends on the disease, when on average, if you can get 70 to 75% of people vaccinated and protected, then that confers protection for the whole population. So that the more us that get vaccinated and are protected from getting the disease, the quicker we're going to get to preventing ongoing transmission that sustains the pandemic.

Dr. Ken Duckworth (01:23:09):

Dan Gillison, our CEO taught me a beautiful African expression. If you want to go fast, go alone, if you want to go far go together. Dan just taught me that today, I'll never forget it. Dr. Lawson, what is your summary statement about the vaccine?

Dr. William Lawson (01:23:31):

Really learn from the past experience we have. That is that issues of disparities, complications in terms of not taking into account racial and ethnic needs is an ongoing problem in this country. And I think this is yet another example that we have to address these problems. So that if something like this happens again, we'll be prepared for it, and we will be able to provide in a humane way, useful treatments in a timely fashion.

Dr. Ken Duckworth (01:24:05):

Thank you, Dr. Lawson. Dr. Daumit?

Dr. Gail Daumit (01:24:07):

Yes, I'd like to echo what Dr. Falade said, which is that the vaccine is what we need. The whole world needs this vaccine. And really understanding some of the issues that people living with mental illness may have about trauma or mistrust of the health system, I think that it's important to note that really this vaccine is for everyone. It's not a special treatment that people are trying to deliver that is really different. It's really something that everyone, as a community, together as good citizens, we're encouraged to get. And so with that, I encourage everyone to spread that. Please get vaccinated.

Dr. Ken Duckworth (<u>01:24:57</u>):

Thank you. Jeremiah Rainville, the head of our Peer Leadership Council at National NAMI, what are your final comments? I want you to have the last word.

Jeremiah Rainville (01:25:06):

I think what's very important is to educate yourself and do your own research and make a good decision about getting the vaccine. So make good decisions on that.

Dr. Ken Duckworth (01:25:20):

Beautiful. This talk is available at nami.org/asktheexpert. These slides are available. And here's a few resources, we just wanted you to know. Your state is running your state, and states are evolving their thinking for many reasons. Here's one place that Dr. Falade gave us for each state's plan for vaccinating its population. And I would add the asterisk, these plans are moving. As I told you, Massachusetts just changed the whole prioritization two days ago. So you have to pay



attention, stay connected to your community, your peer, your leadership, your NAMI organization, your department of public health. This is a good reason to participate in media. Media can be really upsetting these days. But this is a good reason to participate in media, you need to know where you stand in the vaccination queue. And you need to advocate for yourself and those you love, for yourself and for everybody you love.

So I'm going to turn this over back to Dan Gillison. I found this to be a fantastic conversation among four leading thinkers. And, Dan, I want to ask you to close us out today.

Dan Gillison (01:26:34):

All right. Well, thank you very much, Ken, and to all of our fantastic panelists. Your subject matter expertise is just over the top, and we just can't thank you enough for giving us your time and investing your time with us and with our audience. Ask the Expert, as it shows on the screen is an informational webinar series. And you can read the disclosure here. It's not intended to provide medical advice for any specific topic or a specific individual. But the series is really to help, to inform, and to share information, and to give you information that can inform your decision and it is yours.

Now, the series is made possible through generous support from people like you. So if you're enjoying our information and our free programming, consider donating at nami.org/donate. Now, to our board president and our board, Shirley Holloway, we wanted to say thank you very much for participating. And to our staff, the staff does a wonderful job, and we wanted to recognize them. And I'd be remiss if I didn't close out by thanking the production team, because we see the final product, we see what is shown in our virtual panels, on our virtual panels, behind that there's a team that does all the work. And that team is Jordan Miller, Jessie Walthall and Teri Brister. So I want to thank them.

Last but not least save two dates, the 18th of February and the 25th of February. Ken talked about the 18th, and then on the 25th we will be bringing Judge Steve Leifman to you, talking about the criminal justice system and the over criminalization, over incarceration of those mentally ill in the system, and that will begin another series. So the 18th save the date and then the 25th of February.

We wish you the very best as you close out your Thursday and get ready for your weekend. We hope you are all close to getting your vaccination if you have not already been able to get it and we wish you the very best and we ask you to stay as healthy as you can. Be well.

Dr. Ken Duckworth (<u>01:28:52</u>):

Thanks everyone.

Dan Gillison (01:28:54):

Bye.