BrainStorm: Decoding Depression
Episode 2: The Past and Future of Mental Health Care

A Mental Health Education Podcast hosted by the Center for Depression Research and Clinical Care at UT Southwestern Medical Center

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Please scroll to the end of the document to find *Host Biographies* and *Description of the Center for Depression Research and Clinical Care*

Transcript:

[Intro] Welcome to "BrainStorm: Decoding Depression", where we will dig into discussions about mood disorders. We are here to change the way we think and talk about depression, in an accessible, approachable way with a leading expert in the field. No topic is off limits. Coming to you from Dallas, Texas, this is "BrainStorm."

[Speaker- Kathryn Forbes] Hello and welcome back to "BrainStorm: Decoding Depression." I'm Katherine Forbes. Thanks for listening. Last episode, we talked about the state of adolescent mental health during and after the pandemic. Today, we will be talking about the past and the future of mental health care, and all the space in between. We'll talk about nuances around accessibility, how to navigate the system, and where we still see challenges, as well as exciting improvements.

So, Dr. Trivedi, you've been in practice for a long time. To start us off, could you give us an example of something you've seen that has improved in regards to mental health care recently and something that has not changed that we still need to focus on?

[Speaker- Dr. Madhukar Trivedi]
Clearly changed is the recognition that this is real, that this is associated with brain, and that we have to, as a society and individuals, do something about it. What has yet to change is to make it certain that we do not ignore it until there is a crisis. And I think that is the work that we have to do in the next five years so that we change that, so that it becomes as commonly recognized as any other medical condition.

[Speaker- Forbes]
And we've all heard the term stigma, and many of us know how difficult conversations around mental health can feel. How do these stigmas develop, and where do they come from?

[Speaker- Dr. Trivedi]
So one of the major reasons is lack of knowledge and information. It is unclear to people whether this is all made up, this is all in their heads. The second part is because we still lack the objective data needed for a blood test or brain test that can objectively tell us "this is depression and this is the treatment we should go after". That makes for this, kind of, little bit of uncertainty. On the other hand, I think the advances we made in the last 20 years that have changed the way we diagnose, changed the way we treat, and the medications, therapy, exercise, other treatment options available should give us such confidence that the outcomes for this illness are as good as any other chronic condition.

[Speaker- Forbes]
Despite all those advances that you just mentioned, what stigmas do you still see as the hardest to shake, and how do these impact patients and communities? Do you think they prevent people from accessing these advancements and getting care? How can we prevent these?

[Speaker- Dr. Trivedi]
I think one of the stigmas is that people and their family members always think that this will go away, and they wait too long until there is a crisis. So that is still a big hurdle. The second part is, once you start treatment, unfortunately, like with other medical illnesses, you're now 100% certain that this treatment will be your best treatment. And again, research needs to happen for that, but in the meantime that makes for discouragement for the person and they drop out. So a lot of people start treatment but don't continue. That's the other risk that we take, because again from the stigma.

[Speaker- Forbes]
And sometimes you correct us on language, and you don't like to say "depressed person" but rather "experiencing depression."

Tell us more about why vocab is so important.

[Speaker- Dr. Trivedi]
I think we have to really transform and change the vocabulary about this. There are so many examples in our day-to-day lives that we have to put a stop to. First is this: somebody is not a “depressed person” – somebody is a person, who may be five-foot-four [5’4”] or may have depression. So we have to change the way we describe the person. It is not a “depressed person,” it is a person who has depression. They may have migraines, we don't call them “migrained person,” right? And so that's one thing. The second thing in the process of, kind of, labeling somebody like this, we often also jump to wrong conclusions. So if you read anything about mass violence, everybody starts first “they must be crazy.” The chances that somebody with a mental illness is going to become violent is actually less than the chances that any human being in the United States can become violent. That is a common thing that happens, unfortunately, and some of the people who commit mass murder are five-foot-five [5’5”], but we don't then label everybody who is five-foot-five [5’5”] as a murderer.

[Speaker- Forbes]
Exactly.

[Speaker- Dr. Trivedi]
So we have to change the way we see the connection between mental health and any of the other things happening in society.

[Speaker- Forbes]
I completely agree and language definitely matters when talking about these things. And schools are a place where these conversations happen, and they're usually the first places of exposure to mental health care. In the past, there wasn't as much attention paid to mental health in the classroom, but now that has become more of a focus in schools. Tell us a little bit about why that is so important.

[Speaker- Dr. Trivedi]
So, we have to look back. People 20 years, 30 years back did not do speech tests and hearing tests for kids in school because they didn't think of it as an important component of education. Now, you would never see a parent say, “I don't want to get my child to have a speech test or a hearing test,” because that's essential for education. I think we are beginning to recognize that your mental wellness is even more important for the child to be able to even learn anything they are going through in the classroom. That's one. The second part is: this is a pediatric illness. Most people who will develop depression have their first episode in their teen years or before the age of 18. And that means that is the period when this comes out first time and we should be more vigilant.

[Speaker- Forbes]
So speaking of mental health care in schools, how can we ensure that North Texas schools can have adequate access to school mental health care? Where do we start with that?

[Speaker- Dr. Trivedi]
So we have a program that is extensive and we have been going to high schools all across North Texas to do a five-session “YAM” program— Youth Aware of Mental Health program. It is an evidence-based program that we brought from our colleagues at the Karolinska Institute in Sweden that is well studied, that clearly shows it improves depression, suicide, and mental health and resilience. The beauty of this program is it involves kids in their classrooms, so we go and work with the entire classroom. It's a five-session program, it is hands-on training and experience, so that at the end of the five sessions, the students have learned how to think about mental health, how to think about mental wellness, where to go for help, how to identify a mental health problem in somebody in their classroom, and they have learned the vocabulary so that they can actually approach an adult or another student to talk about their problems. We have reached about 14,000 students in the North Texas schools over the last three years, and it is an ever expanding program. We are now at the second stage where we are going to be— we are— starting a training academy so that counselors and teachers from these schools will come to the training academy at UT Southwestern, get trained, and then move and take it back to their schools so that it can expand the footprint. So that it covers all students, at least in North Texas.

[Speaker- Forbes]
Wow, so these kids aren't learning just how to ask for help, but they're learning how to talk about mental health amongst themselves, too.

[Speaker- Dr. Trivedi]
Absolutely. And we have, in our program, already have shown that it reduces depression, reduces suicide, and more importantly, it increases their ability to seek help when needed.

[Speaker- Forbes]
That's so important. And so, we're going into schools to teach kids about resilience-building in order to help prevent depression and know how to express themselves when they encounter it. What's the next step if they do have mental health needs? There's often confusion about navigating the system. Talk to us about how parents and teens should go about finding a

provider in their area.

[Speaker- Dr. Trivedi]
So the first step in my advice is to go and take them to the pediatrician. A pediatrician should be able to screen them for depression, anxiety, alcohol use, other problems, mental health problems. Those who screen positive, they can actually initiate treatments. It does not, does not have to be medications in all cases. And in fact in a large number of cases, especially with teens, it can be really guided exercise, mindfulness exercises, as well as psychotherapy. And so that discussion and decision can happen at the pediatrician's office, and the pediatrician can then consult with a mental health counselor or a specialist. There's also large scale programs going on through our partnership with Children's Medical Center, where a pediatrician, when confronted with a patient who has a mental health issue, can call a helpline to talk to a child psychiatrist to get advice. So in the process, you can start this and make it like any other medical illness that the pediatrician deals with.

[Speaker- Forbes]
And a lot of these families would be able to find a provider who takes their insurance on their insurance website, but what about the families who do not have insurance?

[Speaker- Dr. Trivedi]
So the insurance issue is interesting. In most cases— even in Texas— with kids, there are people who have either commercial insurance, there is also Medicaid, and if none of them works there are places in the, in North Texas that will— there are charity clinics where there is a sliding scale. Grant Halliburton Foundation has also a wonderful matching hotline where you can call them and they will actually help you guide to the right place, so that people can get care even if they don't have insurance.

[Speaker- Forbes]
They're a really awesome foundation, I've looked them up, too. They do some good work here.

Obviously people have had to do therapy online this past year. Do you think we will continue to invest in and use telemedicine as a primary resource after the pandemic is over? Why or why not?

[Speaker- Dr. Trivedi]
So the pandemic has really transformed this idea of medical care that— what component of that can be done remotely through telemedicine. I think therapy is a very good example where therapy can and will be done telemedicine wise over the next several years, because it has several advantages. One is it reduces the inconvenience. You don't have to drive 45 minutes to go see somebody for 30 minutes and then drive back 45 minutes. The timeliness, so that when you need it, there is somebody available, so that you're not actually waiting in the waiting area or figuring out where to go. So telemedicine, especially teletherapy, is becoming the standard very soon. It may not be that every visit is telemedicine, but there will be a large chunk of it.

[Speaker- Forbes]
A lot of barriers are knocked down, too, with telemedicine and especially with people who are busy, and the driving. I really appreciate that for my own therapist as well. But it sounds really promising.

And I know that you also have some successful methods at the CDRC to make depression treatment more mainstream, so tell us more about what you're doing.

[Speaker- Dr. Trivedi]
So the second part is, once the pediatrician starts screening for depression and anxiety, they will identify somewhere in the range of 8-10% of their population that will have depression or anxiety. That group, then, the pediatrician can actually deal with that initial, they can initiate treatment and continue that for at least the initial phases of treatment. And in order for them to do this much more fluidly, we have developed a software called VitalSign6. We believe, I believe, that depression should be seen on the same level as any other medical illness, like you would measure temperature, pulse, blood pressure. I think the sixth vital sign should be depression and so that's what the software does. When the pediatrician uses VitalSign6, they then can use the decision support inherent in the software. So it's like the pediatrician has a mental health specialist at their elbow helping them through that decision making. And the remarkable thing is, once a pediatrician or a family physician uses this software for three to four months, they really become so proficient at it that they actually very rarely end up needing to call a psychiatrist to get the treatment that their patients need.

[Speaker- Forbes]
So this app, from the doctor's perspective, allows them to initiate care with all people— even those who may not be actively seeking it or don't know where to go earlier for mental health help— so they can catch it early.

[Speaker- Dr. Trivedi]
Absolutely. So it is actually, once, when somebody has depression they don't always know that they have depression. It's very similar to when hypertension, people don't always know they have hypertension unless you measure blood pressure. Same thing for depression. So that is the first task. And then once they get treated in this form/manner/ evidence-based approach

that we have developed, we really have wonderful results. So one thing I want people to go away with is: if you get the treatment right away and get the right treatment, people's improvement is dramatic. 60-80% of people will eventually get better with that treatment, maybe second treatment step may be needed sometimes, and that's not different from what you would do for asthma. You don't have the first treatment working in 100% of people, you may have to go to the second one, but remission rates of 60-80% are possible. And, in general, unfortunately, in the United States, remission rates for depression for the general population, are somewhere in the range of 6%. So, just using this guided approach, people's remission rates are improving dramatically in our primary care network we have developed in North Texas.

[Speaker- Forbes]
So, this app VitalSign6 would be in the provider's hands. And what about other apps or things that can be used from the patient's perspective?

[Speaker- Dr. Trivedi]
So we, I, again, really, the way I think of depression care is to think of this as really helping the patient/ person become fully informed, and monitor this, and become informed consumers of health care. So the next step after VitalSign6 we are doing is really to have a software that applies to you— for anybody to use if they need/ want to monitor their wellness, mental wellness, and depression, anxiety. This software, which we are calling Evexia, allows people to monitor their symptoms, functions, strengths, tools that they can use to combat stress, and that they can keep track of, and the software itself allows them to track it, graph it, and monitor themselves. It also will be something that informs them of when they should seek more help. And finally, they can take the results of these monitoring measurements on a regular basis to their provider and show them what has happened in the last week, in the last month, so that guides the doctor to treat their depression better.

[Speaker- Forbes]
Evexia is available online. You can find it on your computer or phone at centerfordepression.org to start monitoring your mental health today. Now we've talked about what schools, doctors, and patients are doing to help themselves and navigate the system. Let's shift to the research and medicine side of things. What are some new treatments that we are seeing and how promising are they?

[Speaker- Dr. Trivedi]
The new treatments are really revolutionizing how we treat depression. There are now a series of rapidly acting antidepressants— remember that traditional antidepressants can take 4-6 weeks to get people better— the new treatments like *ketamine*, *esketamine*, are rapid, rapid-acting antidepressant. So if they are the right treatment for a given patient, the treatment effect can be seen within hours. And that can then be repeated on a regular basis. We have now a new study starting up that is going to test this for youth, those who have attempted suicide recently. We will use it to improve their depression, but more importantly, to improve their re-attempt at suicide. And so these rapid acting antidepressants are available. There is a new treatment available for postpartum depression that is actually a hormone replacement synthetic agent called *allopregnanolone*. That medication actually can be used for postpartum depression, and one episode of treatment— which unfortunately does take 60 hours IV— but at the end of that, that episode is now treated. Third group of treatments is transmagnetic stimulation, that is, it stimulates the brain circuits that can also improve depression. So all these three ranges of new treatments are revolutionizing how we treat depression.

[Speaker- Forbes]
And these really are the first new depression medications in decades…

[Speaker- Dr. Trivedi]
Correct.

[Speaker- Forbes]
What's different about these from what's already on the market?

[Speaker- Dr. Trivedi]
So the old antidepressants were all changing neurotransmission through something called the serotonin and norepinephrine neurotransmission. Those monoaminergic agents did improve depression but it did take 4-6 weeks. These new antidepressants— *ketamine*, *esketamine*— work through something called the NMDA receptor that rapidly acts and changes antidepressant/ depression within hours. *Allopregnanolone*, that I mentioned, is basically a sex hormone that changes depression for postpartum depression in a different mechanism. And then transmagnetic stimulation actually directly works on brain circuits and improves dysfunction in circuits.

[Speaker- Forbes]
And we've discovered these new treatments, but we still struggle to know what the best treatment approach is for each individual person. A lot of finding the right medication is a matter of family history and trial-and-error. Your research focuses on biomarkers. Can you tell us what that means for those of us who haven't been in a science class in a while?

[Speaker- Dr. Trivedi]

So short answer is: I think we would like to get to a point where we will, you can go to a doctor who will do six or seven tests and tell you at the end of the results of that that your depression is such that ketamine is your best treatment, or your depression is such that magnetic stimulation is your best treatment. In order to do that, we are doing the research necessary to look at blood-based markers where we'll look at genetics, gene expression, we'll look at white blood cells and see how they react to immune profiles, etc. We're looking at imaging, EEG, various different parts of brain function and body function, in order to come up with a set of tests that can be done in a physician's office. Very similar to what we do for heart disease.

[Speaker- Forbes]
And have we seen any results from this research yet?

[Speaker- Dr. Trivedi]
We have launched a very ambitious project that has been going on for five years and we are already seeing results in protein measures, so that we measure proteins in certain parts of the inflammation process and if that is increased, then we know how to change their treatment. Similarly, we have published on results from using artificial intelligence with EEG measures, which is also non-invasive and an easy test to do. That also helps us— that signature on the EEG can tell us whether somebody's improvement on a particular antidepressant is almost twice as better than you would get without that test.

[Speaker- Forbes]
Can you explain what an EEG is?

[Speaker- Dr. Trivedi]
EEG is like the ECG is for the heart. Electroencephalogram of the brain really picks up electrical activities from the brain surface to be able to map the brain circuits and their functioning. So when people have depression, there are circuits in the brain that are dysfunctional and an EEG can pick it up. And we look at the pattern of this dysfunction in order to be able to match them to the right treatment.

[Speaker- Forbes]
Wow, this is really exciting, and I expect we'll have a future episode all about this. But tell us quickly how this research will change the future of depression treatment.

[Speaker- Dr. Trivedi]
I think it'll do three things. One is it will improve the lives of people who get the right treatment and that right treatment will happen much faster than it currently does. Secondly, I think that the major issue is it is going to change the stigma, as you talked about. Everybody talks about stigma. I think this kind of objective evidence coming into clinical practice is going to change the stigma. And thirdly, my hope is, this will actually increase the positive attention for depression and suicide in our society so that we can reduce the burden of this illness for society.

[Speaker- Forbes]
Well, we'll be looking forward to hearing how this plays out. We've clearly made some big strides in mental health care, and of course there's still a lot of work to do. I'm glad we now have this podcast so our listeners can follow along with you. Before we sign off, we have a few questions from listeners that were submitted.

First, we've heard that Texas is one of the lowest rated states for funding adolescent mental health care, even though the rates of suicide are so high. How do you see this changing, or what can be done to promote funding and attention to mental health care?

[Speaker- Dr. Trivedi]
So one positive thing that's happened is in the last biennium, the state legislature actually took this into mind and they did set aside a whole set of processes that have improved access to care for mental health for children in the state. Every academic medical center in the state really now serves as a hub for pediatricians in their area to call to talk to a child psychiatrist to get advice on a patient they have. I'm heading up a statewide research network where we are actually working with all 12 medical schools, where we have stood up a research site at each of the medical centers around the state, and are identifying the best ways to treat kids with depression, 8-20 year olds actually, and improving their outcomes over the next two to four years.

[Speaker- Forbes]
And what do you think can be done to encourage schools and the state to fund this program?

[Speaker- Dr. Trivedi]
I think schools have to— are beginning to, but have to— recognize that their primary task of improving education is not exactly possible unless there is mental health wellness in their students.

[Speaker- Forbes]
Next question. So when it comes to navigating the mental health system and eventually obtaining the treatments that you explained to us, there are so many different kinds of mental health professionals with different degrees. Can you explain to our

listeners the difference between an MD, PhD, LPC, and which we should look for when seeking help? Does it matter?

[Speaker- Dr. Trivedi]
I think that my advice to people is, there are differences in how different people are trained and what's their content of the work they do. I advise people to first seek their guidance from their pediatrician. That mother or the father basically goes to a pediatrician for their child's medical care as a start, first point, and that should be the same for mental health. And then get this consultation from the pediatrician about whether you go to a child psychiatrist, whether you go to a counselor, or whether you go to a therapist, etc. And that is the best way to do it. But in general, MDs are those who would be able to prescribe antidepressant medications. LPCs and PhDs do much more of psychotherapy and not prescribing medications.

[Speaker- Forbes]
And for those who are too old to see a pediatrician, where would they go first?

[Speaker- Dr. Trivedi]
Same thing. You go to your family physician, primary care physician. For women, often that first line of contact is their OB/GYN. And all of them are well-versed with this idea of screening for depression and anxiety. And if they are not, they should.

[Speaker- Forbes]
With VitalSign6… [laughs]

[Speaker- Dr. Trivedi]
[laughs] Absolutely.

[Speaker- Forbes]
Well this has been a really productive discussion. Thank you Dr. Trivedi, and thank you to our listeners for tuning in and discussing the state of mental health care with us. That's it for this episode of "BrainStorm: Decoding Depression" with your hosts from the Center for Depression Research and Clinical Care. Be sure to follow us on social media @UTSW_CDRC so you don't miss our episode announcements. If you have suggestions for topics or questions you'd like answered, email CDRC@UTSouthwestern.edu. This is Kathryn Forbes, and thank you for listening. We'll see you next time.

Host Biographies and Center Description

The Center for Depression Research and Clinical Care (CDRC)

The CDRC was established in 2015 out of the Mood Disorders Research Program, building on more than 30 years of research in mood disorders. The CDRC focuses on understanding the neurobiology and psychology of depression and bipolar disorder, with a particular focus on identifying biological and psychological abnormalities. Dr. Madhukar Trivedi, M.D., the founding director of the CDRC, has been a leading expert on mood disorders across Texas and nationwide during his 30 years at UT Southwestern. Dr. Trivedi has taken an innovative approach to doing research in the community by actively creating and maintaining partnerships. The CDRC has established two cornerstone networks that work within the community in quality improvement, outreach, and research missions related to depression: the Mood Disorders Network, which focuses on early identification and best care, and the Risk and Resilience Network, which focuses on prevention through resilience building.

The CDRC conducts research in mood disorders across the lifespan, with an emphasis on treatment-resistant disorders, longitudinal outcomes of depression, psychosocial and psychopharmacological treatments, and biological markers to improved identification, treatment, and prevention of mood disorders. This work has led to several major developments and improvements for patients living with mood disorders. These include better methods to deliver care (e.g., treatment algorithms, computer support systems, measurement-based care), new treatments (e.g., cognitive therapy for depressed adolescents, exercise for depression and bipolar disorder, ketamine/esketamine), and new treatment innovations (e.g., vagus nerve stimulation, magnetic seizure therapy, and deep brain stimulation) for treatment-resistant depression.

The CDRC has pursued a better understanding of the biological and physiological bases for these disorders with a range of laboratory tools (functional brain imaging, EEG, mHealth measures, etc.). Research into the basic foundations of these dysfunctions have produced important findings in the molecular and cellular basis of neural plasticity, neurotrophic growth factors, and mechanisms of antidepressant action.

Biography: Dr. Madhukar Trivedi

Madhukar Trivedi is Professor of Psychiatry, Chief of the Division of Mood Disorders, and Director of the Center for Depression Research and Clinical Care at UT Southwestern Medical Center. He earned his MBBS and MS in Baroda, India, completing his residencies in Psychiatry at University General Hospital, Baroda, India and Henry Ford Hospital, Detroit, Michigan. He completed his fellowship at UT Southwestern, where he now serves as Betty Jo Hay Distinguished Chair in Mental Health and Julie K. Hersh Chair for Depression Research and Clinical Care. Certified by the American Board of Psychiatry and Neurology, Dr. Trivedi is an

established clinical and translational researcher with extensive experience serving as PI and Co-PI on several single and multi-site clinical trials funded by NIH, foundations and industry sponsors. Dr. Trivedi has authored more than 600 peer-reviewed articles and chapters about the diagnosis and treatment of mood disorders.

Dr. Trivedi's research over the last 25 years has focused on understanding the neurobiology and psychology of depression and bipolar disorder, with a particular focus on developing an empirical basis for improving treatment of depression. Dr. Trivedi and his team have been involved in many of the pivotal studies involving the establishment of efficacy of antidepressant treatments (medications, psychotherapy, exercise, complimentary treatments, devices, etc.), examining next steps in treatment resistant depression to develop algorithms and guidelines, and developing and validating biomarkers in order to reach the goal of precision medicine for mood disorders. Among his most notable studies are the Establishing Moderators and Biosignatures of Antidepressant Response for Clinical Care (EMBARC) trial, Combining Medications to Enhance Depression Outcomes (CO-MED) trial, Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study, and the Texas Resilience Against Depression (T-RAD) study.

His numerous awards include the National Depressive and Manic-Depressive Association Scientific Advisory Board, the Psychiatric Excellence Award from the Texas Society of Psychiatric Physicians (TSPP), the Gerald Klerman Senior Investigator Award, the American Psychiatric Association (APA) Award for Research, and the American College of Psychiatrists (ACP) Award for Research in Mood Disorders. For six consecutive years, Dr. Trivedi has been named a Global Highly Cited Researcher by Clarivate Analytics. He is also a member of numerous other professional organizations, including the American College of Neuropsychopharmacology (ACNP), the American College of Psychiatrists (ACP), the American Medical Association (AMA), the American Psychiatric Association (APA), the Dallas County Medical Society, the Society of Biological Psychiatry (SBP), the Texas Medical Association (TMA), and the Texas Society of Psychiatric Physicians (TSPP). Dr. Trivedi currently serves as Deputy Editor of the *American Journal of Psychiatry* and as president of the American Society of Clinical Psychopharmacology (ASCP).

Biography: Kathryn Forbes

Kathryn Forbes is a Research Study Coordinator at the Center for Depression Research and Clinical Care (CDRC) at UT Southwestern Medical Center. Kathryn graduated from the University of Mississippi with a major in Psychology and minors in Neuroscience and Public Policy Leadership. Kathryn earned her Masters in Psychological Sciences from the University of Texas at Dallas with a concentration in Child Development, and joined the Center for Depression Research and Clinical Care in 2020.

Thank you for listening to our podcast series.

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Please email CDRC@UTSouthwestern.edu with any questions, comments, or suggestions.