Schizophrenia - Exploring Early Diagnosis and Treatment Options

Schizophrenia is one of the top 15 leading causes of disability throughout the world. It is a mental illness characterized by alterations to people’s thought and behavior which can include psychosis – a condition which makes it difficult for them to recognise what is real and what isn’t.

These symptoms often begin in late teens to mid-twenties and early treatment means better recovery. Early intervention, before psychosis develops in schizophrenia patients is thought to delay or even prevent the transition to psychosis and improve outcomes.

We are talking to Dr Monica E. Calkins, Associate Professor of Psychology in Psychiatry at the University of Pennsylvania, to explore early indicators and discuss advances in early identification, prevention and finding more effective treatment of schizophrenia.

Full Transcript:

Shweta Mishra: Hello and welcome to CureTalks. This is Shweta Mishra your host and today we are exploring Early Diagnosis and Treatment Options for Schizophrenia. We have with us Dr. Monica Calkins from the University of Pennsylvania. Dr. Calkins is Associate Professor of Psychology and Psychiatry and Director of Clinical Research Assessment in the Neuropsychiatry section at the University of Pennsylvania. Joining Dr. Calkins on the panel is patient advocate, Emeka Chima who was diagnosed with schizophrenia at the age of 15 and serves on the executive board as secretary for the non-profit organization- students with psychosis. Welcome to CureTalks everyone. Dr. Calkins we are talking about a condition here, which is one of the top 15 leading causes of disability throughout the world and it is recognized that Schizophrenia is not a single entity, but a large level of heterogeneity is present in the illness, and it can have multiple causes. So, could you please begin with what lies in the etiology of Schizophrenia? Is it genetic, is it environmental or a combination of both and what are other factors that are at play here that puts a person at high risk for schizophrenia or other psychosis spectrum disorders?

Dr Monica E. Calkins: Yes, thank you. And thanks for having me here today. So, yes, as you said, it’s a serious mental health disorder and really, no two people with schizophrenia have the exact same experience. There are just to kind of talk a little bit about what schizophrenia is first before we talk about the causes. There are six primary categories of symptoms that people with schizophrenia can experience and, in some combination, or another, so those include hallucinations which is perceiving things that other people don’t that can be hearing or seeing or tasting or smelling or touching things, other people don’t. So, for example in schizophrenia, audits where hallucinations, like hearing voices are common but people with schizophrenia can have other types of hallucinations as well. There are also delusions. These are very firmly held beliefs that things are happening to the person around the world that other people don’t believe are happening and it’s very real to the individual. So, person may believe that others are trying to hurt them or follow them, to that person that is their reality in the moment. Some people might believe that other people can hear their thoughts or that others are controlling your thoughts, or actions against their will, and those can be very distressing and scary feelings for people. Then they’re also a third category is negative symptoms. And that’s where a person might have some difficulties in experiencing emotions, like feeling a loss of Interest or pleasure of motivation, finding it really hard to get motivated to do things. And then they also experience some difficulties in expressing emotions like emotions on their face or through their bodily gestures. Some people with schizophrenia experience, disorganized speech, meaning that the person's speech can be difficult for other people to follow and in some cases can be very challenging for the person to communicate to other people what they're experiencing. And the fifth category is disorganized behaviour and that includes range of different behaviors in that including sometimes poor hygiene or dressing in a highly unusual manner and then finally, some people experience catatonic behavior, which is where the person has a really significant decrease in responding to the environment. So that's where a person for example, may be mute or immobile. So, for these symptoms, as you can imagine, they can really be significantly impacting for the individual and can lead to a really significant decline in the person's ability to function, to interact with peers, to do jobs for the family and when it happens to very younger people, young people that can lead to challenges and achieving the typical functioning.

So, important to note that the psychosis symptoms that I mentioned so it's hallucinations and delusions. They can and do occur in other mental health disorders, not just in schizophrenia. So, for example, people with severe mood episodes, can sometimes experience those types of symptoms as well. So those symptoms are not themselves diagnostics as schizophrenia. And then in schizophrenia, which does affect about 1% of the population, that's about one out of every 100 people, the onset usually occurs between the ages of 16 and 30. And that means that often the symptoms begin during the critical developmental period of adolescence or early adulthood and could really impact people's abilities to achieve their life goals. So as far as what causes schizophrenia, then, a good deal of research has shown that schizophrenia is the result of both of the things that you mentioned. So, the interactions between genes and environments during the development of the brain both before and after birth, so they're both genetic and environmental risk factors. For genetic risk factors, we know that schizophrenia is highly heritable, which means that having a genetic family history of schizophrenia increases a person's risk and there are recent large genetic studies, which show that there are multiple risk genes. So, it's not just like a single gene that contributes to risk, but multiple risk genes and these are likely genes that have what we call small effect and is called polygenic. So, meaning that there are many genes of small effect. And in recent years investigators have developed what they call polygenic risk scores, which estimate the overall genetic risk that a person has/might be carrying. Then there are also important environmental risk factors. And those are several factors, many of which we can think of, as sort of biological environmental risk factors mean that they likely impact the brain as its developing. And those include things like infections, migration, nutrition, discrimination and traumatic life events. And so, as the brain develops through childhood and early adolescence, these initial risks and exposures appear to contribute to a typical brain development for that individual. And this can interact with further environmental exposures such as cannabis use and social stress as the person is continuing to develop and grow and those transitions to psychosis, the ultimate transition to psychosis is then what we call neuro developmental process where those genetic vulnerabilities, interact with various adverse environmental influences, at anytime during brain development and continuing on through the onset of illness.

Shweta Mishra: Thank you. Thank you for all that comprehensive, explanation Doctor. Thank you so much. So, what does clinical high-risk mean when we are talking about schizophrenia? And what is the significance of this stage in the disease progression?

Dr Monica E. Calkins: Yeah. So, critical high risk is symptoms that a person experiences that research has shown increased the person's risk of developing a threshold psychosis disorder like schizophrenia. And so those symptoms include what we call sub threshold for attenuated versions of the symptoms that I talked about. So, for example, a person might start to think or wonder whether other people are following them. So, they're not convinced as they would be if they had a delusion, but it can be really troubling and become quite distressing or interfere with the person's school or work or social relationships. And in the sub-threshold form of hallucinations, for example, a person might hear unusual sounds or whispers, but they know that it's not real and the person doesn't really have the full experience of a true perception as they would for a hallucination. So, it's more of an attenuated version of that symptom that we might see later on in a threshold psychosis state. So, there are two reasons that this clinical high-risk stage is really important. First clinically speaking those symptoms can be very early warning signs that person may be developing psychotic disorders. They present a real opportunity to see clinical care before the symptoms have progressed to a much more severe level. And then, one important thing to note here is this some people do have those kinds of symptoms and symptoms go away on their own or some people can experience them at this low level without ever transitioning to a psychosis Disorder. So, the challenges we can't currently predict for any given individual what's going to happen. And if those symptoms don't progress, they still can be associated with other things, like depression, or anxiety, or substance use. And so, they're still important to recognize and potentially address through clinical care. Since we can't tell what the course of those symptoms might be, or how they might impact the individual. It's important that young people are supported and encouraged to talk about their mental health experiences with trusted people. So, the parents or teachers, primary care providers, faith leaders and seek professional help early on. And this leads me to the second reason that the clinical high-risk stage is important, those early symptoms are also a window into the changes in the brain that are happening very early in the course of illness. So as researchers, this gives us the opportunity to investigate those changes and hopefully ultimately develop better medications or other interventions that we hope one day can be able to improve the course of a person's symptoms or maybe even prevent schizophrenia and other psychotic disorders all together.

Shweta Mishra: Right. Thank you so much. And you just made a very important point here, right. Highlighting the importance of sharing and reaching out for medical care sooner rather than later. So, thank you for that doctor. I'd like to talk a bit about diagnosis of schizophrenia, Doctor. So how is it currently diagnosed and for definitive diagnosis do you rely more on the neuro imaging scans or blood neurotransmitter levels, more on how the patients present themselves?

Dr Monica E. Calkins: Yeah, so currently the diagnosis is based primarily on those mental health symptoms that I described. So, we would gather a description and history of symptoms. We try to incorporate as many sources of information as we can. So medical records, interviews with the individual about their experiences and the family member or someone close to the person who can provide observations and help inform the timeline of the symptoms. A medical professional often a psychiatrist will also usually order blood work and may order neuroimaging to know the medical causes of the psychosis symptoms such as a brain tumor, other brains pathology, but at this point neuroimaging is not diagnostic. So, there's no signature saying this person has schizophrenia from neuroimaging scan. Our hope is that one day a neuroimaging can contribute more to the diagnostic process, especially in the early phases of illness.

Shweta Mishra: Right, thank you for sharing that doctor. That's very helpful. So, talking about advances in diagnosis of mental health conditions, I know doctor you are involved with accelerated medicines program for schizophrenia, the AMP SCZ initiative for patients who are at high risk of developing schizophrenia. Could you talk a little bit about the aim of this program and the interventions that are ongoing or being developed to fill this gap in early diagnosis and perhaps treatment?

Dr Monica E. Calkins: Absolutely, I'd be happy to. This is a really exciting, unprecedented commitment on the part of a number of different stakeholders to really gain some traction and try to make a difference, in terms of our understanding, be able to predict schizophrenia and other outcomes. So, the accelerated medicines partnership program is a public-private partnership between the National Institutes of Health, the US Food and Drug Administration, European Medicines Agency, and a number of different public, and Private organizations. So, it's managed through the foundation of the National Institutes of Health, and they've invested in 99.4 million dollars globally into this project, which is a massive endeavor, huge commitment on their part. It's a five-year effort and our aims are really to include developing tools that identify the early stages of risk for schizophrenia and predicting a likelihood of progression to psychosis and other outcomes. Another aim is to develop tools that can really help us to identify new targets for drug-based treatments that can be tested later on in clinical trials. So, currently it's not itself an interventional trial but it is something that we hope stands a very good chance better than many things that have come before in terms of developing new medications. So, a core component is to establish a research network focused on individuals with those clinical high-risk symptoms that I was telling you about and at AMP Schizophrenia there is a coordination center and then two research networks of 42 study sites across the globe were part of ProNET which is the Psychosis Risk Outcomes Network, the lead site is at Yale and there are 26

International sites of which Penn is one of those. The other research network is Prescient that centered in Melbourne, Australia, that has 16 sites. So there'll be a number of different assessments of 2,500 participants across North America, Australia, Asia and Europe, followed for two years, and will include a number of different measures including biomarkers, imaging, electroencephalography, fluid based markers, saliva and blood cognitive assessments, speech sampling and from this big data set we hope to be able to derive algorithms that predict clinical outcomes, including the transition to psychosis, persistent cognitive and functional impairment without psychosis. And also, hopefully remission of the clinical high risk state, so, being able to better to understand what the predictors of all of those are.

Shweta Mishra: That sounds very promising, Doctor and I would now like to bring some patient perspective to this discussion, Doctor and we have Emeka on the panel who is an undergrad and studying Information Systems Management and advocates for neurodivergent communities through his speeches and presentations. Emeka, welcome once again, and I know you have experienced living with two Chronic illnesses, schizophrenia and depression at the age of 15. So, before you begin with your questions for Dr. Calkins, would you like to tell us a bit about your story and how you overcame these illnesses and what you feel was the most important aspect of your care and what was your driving force?

Emeka Chima: Yes, so, my name is Emeka Chima. I am coming from Coopersburg, Maryland. So, my story starts, well I have ongoing history of mental illness. I was diagnosed with autism at age, 10. And later on, with mild schizophrenia and mild depression. At age 15, I was hospitalized once in 2014, twice in 2015. And I've been attending many outpatient programs as well. Those were really helpful for me. I met a lot of good people. Now be able to build a robust support system. I will always say the driving force for me has been self advocacy as well as the people around me, like community empowerment has been a driving force in my life. It has propelled me to new heights and my recovery journey. My mom, my dad they are my best allies. Currently I am with Students with Psychosis – non-profit group presenting virtually and in person. Upcoming from June 9, 2011, will be presenting at the MHA National Conference. I'm excited and happy to be able to be included in that project.

Shweta Mishra: I'm happy for you, Emeka.

Dr Monica E. Calkins: Thank you.

Emeka Chima: Yeah, go ahead, please. I was going to say I'm so grateful to be with you all and you've all been doing some amazing work.

Shweta Mishra: Thank you. Thank you, Emeka. Your story is inspiring and it kind of highlights the importance of sharing what you are going through early enough and at the right time. So, thank you for your inspiring story. And please take it away with your questions for Dr. Calkins now.

Emeka Chima: Of course. Okay, thank you for listening to my story. First question to you Dr. Calkins would be do you think that future medicine and technology will promote a long-lasting treatment option for mental health patients?

Dr Monica E. Calkins: Thank you, Emeka. And yes and thank you for telling us about your experiences. Yes, we really do hope and believe that efforts like AMP Schizophrenia among others will really help us eventually provide not only long-lasting treatment but ultimately prevent serious mental health disorder. So, there was a time in my career in this area that would not have been a statement that I would have made. But I think we're really excited about all of the advancements that have been happening. And I do think that those things will happen.

Emeka Chima: The next question for you, very good response. Next question for you. How do you think hospital conditions can be improved for mental health patients and their providers?

Dr Monica E. Calkins: Thank you for raising this important question, Emeka. And as I'm sure you know from perhaps your own experiences and from those around you, the circumstances surrounding psychiatric hospitalization for young people often involve some kind of crisis situation. Sometimes that for some people that can involve law enforcement. So unfortunately, some people do experience being hospitalized as a frightening and serious stressor and while sometimes it may be necessary to ensure the individual safety and to stabilize symptoms the hospitalization can also contribute to stigmatization, disruptions in school or work and social relationships which of course can be worrying. So also, sometimes people might witness psychiatric emergencies involving peers even basic things I've heard like that bathroom cleanliness. All those things can be quite stressful and even scary. And it can be experienced as sort of a containment restriction, rather than therapeutic. So, there is a growing research and it is examining these kinds of issues, including sort of, how best to take what we call a recovery oriented approach, to improve the experience of hospitalization for individuals and general recovery oriented approaches foster, like connectedness, hope, identity, meaning and purpose and empowerment as poor elements of recovery. So, this is a real patient centered approach to emphasizing that individuals, should really contribute to identifying and prioritizing the goals of their own care. And so far, the studies have been done do suggest that it's important for the individual to feel understood by others, developing more confidence in themselves and their abilities during the time of their psychiatric hospitalization, feeling a connection with and listened to by staff or other patients can be a really crucial element of a person's experience and really being involved in that decision making and promoting safety are important. Now, for young people, families are key stakeholders as you mentioned the involvement and importance of your family and developmentally many young people are not necessarily ready to be completely independent, but kind of support of autonomy, as that person is growing and developing just like for any other adolescent or young adult can be graded according to the agents or developmental stage of the individual. So, I think this line of research is exciting, that hopefully will continue to grow the sort of patient-oriented perspective and really highlights that user experience of individuals who have experienced inpatient psychiatric care should be at the heart of the efforts that are aimed at improving services. And it really highlights a lot of targets for staff training and other quality improvement strategies that psychiatric facilities can do.

Emeka Chima: Thank you. If I may add, so you said a patient should be like confident in their own abilities. My confidence has been like a roller coaster throughout my recovery journey. It's hard to pinpoint like, where it's been, it's been over the place, and I needed extra support just to keep my confidence level stable.

Dr Monica E. Calkins: Yeah, well that relates to the really important point is that we always say sort of recovery is not linear right. So, it doesn't sort of just continue on this upward momentum as much as we might hope and there's sort of good times and bad times. And there's times when things are better and times when they're not, may be more challenging and so it's important as people who are in the recovery process to kind of do what they can to anticipate what those points are that might be more challenging and developing that Network of supports and strategies, and skills to cope with those times when things are most challenging.

Emeka Chima: Yes. Thank you. Next question for you, would you consider CSC stands for Coordinated Specialty Care for your clients? And how can CSC be made more readily available to people in crisis?

Dr Monica E. Calkins: Definitely. Yes, CSC is a main focus of our clinical care and research, and I could tell the audience a little bit more about what Coordinated Specialty Care or CSC is. So, CSC for psychosis, includes a multi dedicated, multidisciplinary team of Specialists, including case management, psychotherapy, medication management, support employment education, peer support and family support and education and those types of interventions were first developed in Australia and Europe. They were way ahead of the United States, but now have been more widely implemented in the US since 2015, through the support of the Substance Abuse and Mental Health Services Administration or SAMSA. And as of 2019, there are CSC programs in all 50 states in the United States. We're really excited about that. And in Pennsylvania, we currently have 17 CSC programs for first episode psychosis, and that includes three in Philadelphia. So, our program at Penn, which is the Psychosis Evaluation of Recovery Center- PERC the peace program and one of the newest programs that's at the Children's Hospital of Philadelphia, which serves through the younger population of individuals experiencing a first episode of psychosis. So, all of our CSC programs, except young people who've experienced a recent first episode of psychosis, usually within the past 1 or 2 years, and generally engage young people in care for two years. Some with the option to participate in step down care after the first two years, and we also have 3 CSC programs now dedicated to use of clinical high-risk symptoms and that includes the program here at Penn. And then one called The Hope program at the University of Pittsburgh, and another Beaver County. So, a lot of growth in this area and this work is actually part of several larger efforts. So, in 2017, the Pennsylvania office of Mental Health and Substance Abuse Services, which is the Pennsylvania, they funded us to form the Pennsylvania Early Intervention Center, which is now called HeadsUp and HeadsUp provides fidelity and program evaluation and training to support Pennsylvania CSC programs. The mission of our Center, which I could Dr. Christian Kohler is to help end the stigma around psychosis through education, advocacy, and support on our website, which is headsup-pa.org. You can find information and resources about early psychosis. There's a locator of Pennsylvania CSC programs, and I would really encourage any young person or family member concerned about early psychosis symptoms to reach out to us at HeadsUp or to a nearby program. There are also programs, there's also a national research arm funded by the National Institute of Mental Health and that's called the Early Psychosis Intervention Network- EPINET and EPINET links early psychosis clinics across the entire country. So, in 2020, we joined with the Maryland programs as a regional EPINET Hub and our Hub is called the Connection Learning Healthcare System. And what we're really trying to do is to engage participants and other stakeholders in a learning culture. So, we used data to improve practice and then identify areas of further improvement and then rapidly translate that knowledge into practice throughout Pennsylvania and Maryland. So, it has been a huge advancement, this CSE advancement. Many studies have shown improved outcomes in individuals throughout 6 to 24 months of care compared to treatment as usual. But there was a large Danish study called Opus that examine tenure outcome data, which unfortunately did not support sustained clinical and functional improvements compared to usual care. So really, highlighting the need for additional longer-term, outcome studies and the kind of research that EPINET is doing to figure out how that continue to improve our programs. And the program still to the question of sort of accessibility, even though we have 17 in Pennsylvania that still doesn't cover all of Pennsylvania. There's a huge region of our state across the country where those kinds of programs are not available. And so, they're inaccessible to many individuals who experience the first episode of psychosis and for clinical high-risk only have three programs in the state of Pennsylvania. So, some steps I think that we can take to include advocating for funding for more programs, increasing awareness, outreaching in partnering with segments of the population that might not be aware of existing services. At HeadsUp, we have a real psychosis mentor with free consultation service which allows providers working with individuals, with the first episode of psychosis. Even if they're not part of the CSC program, to ask questions and to help with the care of young people, they're working with. So, we hope that through such efforts both locally and nationally we can continue to grow the accessibility and utility and success of early psychosis care in our region.

Emeka Chima: That's appreciated. Yes, thank you. For all patients of course, but mostly for like first episode psychosis patients that they could definitely benefit from CSC. Now I have personally I have benefited from that.

Dr Monica E. Calkins: I'm glad to hear that, that's super important. Most important thing.

Emeka Chima: Yes. Thank you. Next question in what ways do you think people with mental illness and the Allies or caregivers, can break the stigma surrounding neurodivergence while empowering the community outlook?

Dr Monica E. Calkins: So, yes, thank you. Mental health stigma is a tremendous problem, not just for schizophrenia, which is unfortunately highly stigmatized, but for all mental health disorders. So, the core components of stigma and prejudice, which is negative attitudes and emotions towards certain groups, often stemming from stereotypes, which are beliefs about people based on their membership in a particular group, not based on the individuals themselves. And so that can really lead to discrimination, which is unfair treatment of people because of the group to which they belong. So, for individuals and their families, stigma can lead to embarrassment or fear of seeking help if needed, just trust of treatment providers and treatments, relationships with friends and family can be impacted. The person can have low self-esteem what we call self-stigma which is sort of like internalizing those stereotypes and believing those things to be true of oneself, even though they're not necessarily true. And it can also exacerbate illness and lead to difficulties with reintegration, recovery, fear of job or housing applications use a lot of impacts of sigma and then for the individual. And then for society stigma fosters misunderstanding of the features of mental illness. So, there are myths about the tendency of those with mental illness to violence or dangerousness, which is false, that belief can facilitate fear or avoidance or rejection. And so, all of this can also then effect public funding of mental disorders research and services, and also affect the legal treatment of people with mental illnesses. So, there's a lot of societal impacts. And so, unfortunately, the media for many people in our society, the media is a main source of information about mental health. Media portrayals frequently an inaccurate and contain stigmatizing elements. So, it's also a primary source and perpetuation of negative public attitudes and stereotypes about mental illness. I could go on about that I developed a course called Psychopathology in the Media here at Penn where we explore the significance and impact of media portrayals for individuals and society because it's such an important issue. So, going back to your question, the question you asked about what people of mental health disorders and allies can do is extremely important. While on the one hand I do feel that the burden shouldn't necessarily be placed on people with lived experiences to fight societal stigma. On the other hand, it can be empowering for some people, and their number of studies showing that personal contact with a person with lived experience can mean hearing a person's story and journey can lead audiences to less stigmatized views. So, for people who do the sharing, it can be very rewarding to contribute to educating others and dispelling misconceptions. So, finding venues to discuss one's experiences can be one way to play a powerful role as you are doing here. Mental health advocacy groups can provide these opportunities while also allowing people to connect with others with shared experiences. And so, you mentioned students with psychosis, we have just embarked on a collaboration through HeadsUp with Students with Psychosis, amazing organization, that is one such advocacy group. The National Alliance on Mental Illness or NAMI, Mental Health America, you mentioned, one mind as well those groups often focus on advocating for the legal and human rights of people with mental health disorders, and some provide direct financial support for mental health research. So, they're great opportunity for people to become involved with communities who share similar missions and values. And in the end, I do think the breaking the stigma of mental illness is an ongoing process that we can all partake in. And I have high hopes that one day we will talk about an approach mental health disorder and their treatments the same way we talk about other medical conditions like cancer or heart disease.

Emeka Chima: Alright. Thank you. Here SWP, we like to address the stigma in the face of mental illness. Yeah, we acknowledge that stigma is real for us and we reach out to eliminate that stigma so people can live freely with the diagnosis and as an individual as well.

Dr Monica E. Calkins: Yeah, super important work. Thank you.

Emeka Chima: I have a couple more questions for you. What are some specific hurdles that could potentially arise for a caretaker who experiences mental illness? This is for the caretaker in particular, not for both the caretaker and the loved one.

Dr Monica E. Calkins: Yeah, I think, so parents who experience mental health disorders just like anyone else with chronic or severe illness can really experience unique challenges with caretaking. So, I do want to note that due to harmful stereotypes or sometimes the of people with mental illness, can't be sort of good parents, but that's an inaccurate assumption, which can be very damaging to the person who can lead to shame and guilt and avoidance of disclosing mental health symptoms and seeking treatment. So, with the right support and resources, absolutely possible for a person with mental health conditions to be good parents. Now this is the case sometimes the person's particular symptoms that they are experiencing like any usual or typical parenting problems more challenging to cope with and that can lead to some impacts for the child. So, for example, a parent who has depression might have low energy and trouble sleeping which can impact the energy levels around the families or a parent experiencing significant anxiety might be fearful of certain social situations and that can impact the child's social experiences. So proper treatment including Psychotherapy with a therapist who specializes in the types of treatments that the person is experiencing, I think that's key to developing skills and strategies to cope with those unique circumstances. And there are also many terrific resources some of which we've already mentioned, there's tips and tools available online. Another one I didn't mention is parentingwell.org. That's the site that's devoted to providing resources for parents with mental illness. And some people may also find family support groups to be helpful.

Emeka Chima: My caretakers have opened up to me about having mental illness and that was eye-opening experience for me. I can finally relate to my parents after all that I've gone through, I can see what they've gone through. We can have that mutual connection.

Dr Monica E. Calkins: Well, that can be very powerful.

Emeka Chima: Thank you. All right. Next question. What advice would you give to newly diagnosed patients facing an early onset of mental illness?

Dr Monica E. Calkins: Yeah, so people are different, some people might feel afraid or anxious or stressed when receiving a mental health diagnosis. Some people might wonder what it means for their lives and their future family, and friends may also be afraid or unsure of what to do or how they can help, and other people may feel a sense of relief that what they're experiencing has a name and maybe other people have experienced it also. So, everyone's a little bit different in terms of how they might react to mental illness diagnosis. But to young people who are newly diagnosed, I would say a couple things one it's important to remember that this mental health experience happened to you, but it doesn't define you. The recovery is a process of we talked about, and it doesn't happen overnight. And so, retaining that recovery focus, I'm seeking to participate in the decision-making with care providers, in a collaborative manner developing recovery plan for that work it's critical to speak openly with mental health care givers, discussing treatment options, and alternatives. We're learning more about the condition by asking care providers for resources because sometimes Googling or using the internet as we just talked about with the media can lead to some misinformation. So, it's important to kind of vet those sources to help understand information you are hearing or reading about. It can be very helpful to talk with others with lived experiences so that peer support but also through the groups like the Students with Psychosis or the Trevor Project for LGBTQ youth ____ again, has some great resources there and I would say finally just it's important to maintain hope. So, while learning skills to cope with symptoms, today's symptoms, keeping an eye to the future and taking small steps to get yourself closer to future goals. And we see many youths with serious mental illness episode or even multiple episodes who through engaging with clinical care, medication is needed, or is appropriate, they're able to build coping skills and strategies that really helped and allow them to better manage daily symptoms and move forward towards achieving their life goals.

Emeka Chima: Yes, as you mentioned shared decision-making. I wholeheartedly believe that every individual particularly is part of one support system as something worthwhile to offer. Whether it's the parent or any other caretaker, maybe the mental health provider, teacher, counsellor, you name it. We all have some specialty that we can administer it to the individual.

Dr Monica E. Calkins: No one knows your own experiences better than you yourself, right. So that's the other point. Yeah.

Emeka Chima: Thank you so much. Thanks for sticking with me here. And final question, how can we make an accurate prognosis when treating mental health patients?

Dr Monica E. Calkins: Yeah. So, knowing the true prognosis for any given individual is really challenging at this time. We don't have well validated what we call staging models for individuals. In other words, we don't yet have anything like in cancer or other diseases for which they're relatively well defined like biological stages of illness. We don't have a crystal ball. So, we can't really know. We do have a good sense of general risk factors for psychosis onset and for relapses. So generally, speaking we are able to provide psycho education, to individuals who have different levels of risk, for example, once a person who has experienced a first episode of psychosis, the use of cannabis can increase the risk of relapse of Psychosis symptoms and so individuals are informed about this risk and reduction, or abstinence can be discussed further and implemented into the treatment plan at the person’s readiness to do so. The field has also recently begun to develop what we call individualized risk calculators, which can help people better understand for people who have clinical high-risk symptoms, their personalized risk of transition to psychosis. But so far, these are based on clinical symptoms and other features, and there’s really suggestive and not truly prognostic. So, this is part of what we hope we can improve for psychosis through AMP Schizophrenia to really develop improved biologically based predictive models that can ultimately improve prognosis and care.

Emeka Chima: Yeah, I believe that when diagnosing or prognosing mental illness, there has been more emphasis on a person first treatment that is hearing the testimony or hearing the story from the person first before making that diagnosis or one of those diagnosis. It’s important not for healthcare providers to make conclusions based on what they see on the outset. It’s more important what a patient personally feels, what they’re experiencing, builded _____ experience can help in that process.

Dr Monica E. Calkins: so, really respecting the autonomy and the viewpoint of the individual.

Shweta Mishra: Thank you, Emeka. Thank you so much for your wonderful questions. It was wonderful listening to both of you talk about breaking the stigma around mental health and some very helpful advice for newly diagnosed patients. Thank you, Dr. Calkins. So, I have a few more questions before we wrap up for today. So, Dr. Calkins, could you please elaborate on some of the recent advances that have happened in the field of schizophrenia treatment in terms of drugs over the past few years?

Dr Monica E. Calkins: Yeah, so one of the critical advances we’ve touched on has been the increased clinical and research funding for _____, especially care in general. So, that’s been really great advancement and other recent advances include trying new methods like using specialized statistics, using brain-based data to predict treatment response at the individual level. There’s also increasing research on using long-acting injectable medicine where the person receives an injection of medication that lasts while earlier in the course of psychosis that have been historically given, which also provides the opportunity to improve treatment adherence, and overall patient outcomes. And on the Psychotherapy side more specialized approaches to early psychosis such as recovery-oriented cognitive therapy, cognitive behavior therapy for psychosis. They’ve been implemented and so there have been several recent advances in those areas in the past few years.

Shweta Mishra: Thank you. And my next question kind of pertains to ties up with what the Emeka had to say about long-lasting treatment. So, you mentioned genetics as a significant contributor in the development of schizophrenia. And I was reading that schizophrenia is defined as not a single disease but a group of eight genetically distinct disorder. So, how are we looking at gene therapy for curing mental conditions, like schizophrenia? Could you talk about that a bit?

Dr Monica E. Calkins: Yeah, so as a caveat, I’m by no means an expert in gene therapy. But what I can say is that the situation is highly complex as you mentioned for psychiatric disorders, because risk for psychiatric illness, is also considered to be what we call polygenic. As I mentioned many genes are involved and schizophrenia and other mental disorders are complex disorders, as we talked about. So, they’re not typically caused by, so they’re typically caused by multiple genetic and environmental factors. So, a lot of things are working in combination, so that means they’re not like disorders caused by problems in a single gene. And that is a challenge for developing any kind of gene therapy. So, there are large-scale initiatives. Like the psych ENCODE Consortium funded by the National Institute of Mental Health and their goal is to accelerate discovery of psychiatric risk genes and hopefully, that will push forward a better understanding of distance causes as far as the, like the pathways by which those genetic variants impact brain dysfunction and ultimately lead to the development of novel therapeutic agents and preventive interventions.

Shweta Mishra: Right, absolutely. Thank you so much for sharing all this information. Dr. Calkins we’ll wrap up the show now and with your message that the benefits of early intervention, in case of mental health, cannot be overemphasised. Like Emeka also said and believed, right? So, reach out for help and Medical Care sooner than later. Thank you. Dr. Calkins that was a very informative session today and Emeka, thanks for your inspiring story and guiding questions with your very insightful questions. So, thank you very much. We also thank the University of Pennsylvania, and the talks will be available on curetalks.com. So, until next time we meet, thank you everyone and have a great day.