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CURESZ FOUNDATION

Newsletter

ISSUE 16
FALL 2021

Comprehensive Understanding via Research and Education into SchiZophrenia

A Look Inside the Intricate Journey of Bringing New Psychiatric Medicines to Patients in the U.S.

The brain is one of the most complex organs in the human body – yet how exactly it works is still largely unknown. I knew early on that I wanted to better understand how the brain works, and its role in how we think, feel and behave. When I became a psychiatrist, I realized the impact an effective medicine and treatment plan could have in significantly improving a patient's quality of life.

Since entering the pharmaceutical industry, I've played an active role in the research and development of new medicines for various conditions, including schizophrenia. But what exactly does it take to develop a new medicine for those living with mental health conditions?

The process of developing new medicines is one that requires significant time, resources and, most importantly, an unwavering commitment to those in need.

It takes an average of 10 years for a new medicine to be discovered, developed and ultimately reach the hands of patients.[1] This development process is overseen by the U.S. Food and Drug Administration (FDA) to ensure medicines are both effective and safe.

Dr. Stephen Brannan, *Chief Medical Officer at Karuna Therapeutics*

In psychiatry, it is particularly challenging to find a treatment that is effective for the constellation of symptoms accompanying most conditions. One reason it is challenging is the lack of well-known biomarkers, which are measurable indicators of the presence or severity of a disease or condition. Biomarkers, such as heart rate and blood pressure, can help identify whether systems of the body are working properly, and therefore can be incredibly helpful in the diagnosis and treatment of illnesses. Although we lack well-established biomarkers in psychiatry, we have developed other tools to help us understand the presence and severity of conditions. For example, physicians use the Positive and Negative Syndrome Scale (PANSS), a medical scale consisting of a series of standardized questions, to understand the severity of symptoms a person with schizophrenia may be experiencing.[2] This scale is also used as a benchmark to track whether medicines are helpful in decreasing the presence of one's symptoms. The reliance on diagnostic tools such as this is only one way in which psychiatry is very distinctive from other areas of medicine.

Psychiatric drug development in the U.S. involves thorough testing to ensure medicines are safe and effective before they are available to patients, and typically follows a five-step process.[3]

1. DRUG DISCOVERY

Drug discovery is the process through which potential new treatments are identified. Here, thousands of compounds are assessed for further development – however, only few will demonstrate promise.

2. PRECLINICAL RESEARCH

Once a compound is identified, it will enter *'pre-clinical research'* where it will undergo further testing in animals. This is to confirm it meets basic safety requirements before it is studied in humans. It is estimated that slightly under 10% of compounds studied in preclinical research will move forward to clinical studies.[4]

Preclinical research is particularly challenging in psychiatry, as testing in animals does not always give reliable indicators of effectiveness in humans.

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WhatSZ IN THIS EDITION

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Emeka Chima

Road to Recovery

In 2020, **Emeka Chima** earned an Associate of Arts degree from Montgomery College in Information Systems. At Montgomery College, he was a Dean's List recipient twice, and was inducted into the Phi Theta Kappa Honor's Society. He currently works as a Database and Campaign Intern for a health care and nutrition company. Additionally, he is an undergraduate student at the University of Maryland Global Campus striving toward a Bachelor's degree and a future job in the IT field.

Raised by his Nigerian father and his mother from Washington, DC. Emeka experienced a happy childhood. He enjoyed helping to care for his two younger sisters. In high school, he played soccer and flag football, winning three trophies. His mother was a project manager with the Department of Defense, and he longed to follow in her footsteps by embarking on a similar career as an adult.

However, about age 15, everything began to fall apart. In August 2014, Emeka began to hear voices in his mind. Initially, while in class, the voices would command him to look away into the distance. Gradually, the voices became more powerful, telling him to isolate himself from others, even family members whom he loved.

One night, the voices commanded Emeka to cut himself with a knife. He became delusional, believing that if he just hurt himself, *"everything would be fine."* He remembers panicking and screaming as he waived a knife into the air. Looking back, Emeka struggles to describe his thoughts at the time. He felt as though he needed to run away.

Emeka's aunt heard him screaming and de-escalated the situation, calming him, as she convinced him to put down the knife. Afterward, Emeka felt guilty for *"acting out,"* unaware that he was struggling with the onset of severe mental illness.

A few weeks later, Emeka had a similar experience again, brandishing another knife, but this time he was alone. The voices commanded him to keep the knife with him at all times for self-defense. Though the voices sounded like a family member to Emeka, he realized that his family would never want him to harm himself. In the following days, Emeka shared with his father that he was hearing voices, and stated that he might need help.

Soon after, during the night, Emeka began hallucinating again. This time, he heard a crowd of people, each one visiting him in error, as though they had gone to the wrong address. As the night went on, Emeka heard a voice consoling him, and confirming that everything would be okay, as well as another voice telling him to hurt himself.

The next morning, when Emeka's father visited Emeka in his bedroom, he thought Emeka might be having a seizure. Emeka's paternal grandfather had struggled for many years with bipolar disorder, and his father suspected that Emeka was also mentally ill. Together, they went to the hospital.

While in the hospital, Emeka was diagnosed with paranoid schizophrenia. He was still only 15 years old. Despite the devastation of being told he had a disorder of the brain, Emeka learned that his symptoms could be explained by his diagnosis, which gave him relief. He also discovered there was treatment. After three weeks on the psychiatric ward, he achieved stability, was discharged, and returned to school. He was still a junior at that time.

The next year was difficult for Emeka. The first medications he tried left his eyes bloodshot, and he felt like he had a hangover though he never drank alcohol or abused substances. He did not have a regular doctor and often forgot to take his medication. Over the next year, he was hospitalized four times for breakthrough symptoms, with little benefit.

However, during September of Emeka's senior year of high school, he had a new start when he was accepted into a treatment program called *"Epic"* through Johns Hopkins University. Through Epic, Emeka began a trial of clozapine, a medication for treatment resistant patients. Within a week, Emeka began to see great improvement. He recalls feeling like his recovery on clozapine was a *"miracle."*

On clozapine, Emeka finished high school with high honors, winning awards for every class. He didn't know exactly what career he wanted to pursue, but he was confident that he would succeed.

After high school, Emeka completed his Information Systems degree, graduating from Montgomery College, and today he continues to thrive in his bachelor's degree program at the University of Maryland's Global Campus. He has also been involved with the nonprofit organization, Students with Psychosis, for over a year.

"When it comes to young people with brain disorders, I would advise not to hesitate to receive help because there is both a physical and emotional need to be surrounded by people who understand. Working through the recovery process can feel overwhelming, but we can develop the resilience to achieve mental wellness."

~ Emeka

LONG-ACTING INJECTABLE ANTIPSYCHOTICS

Empower Yourself

A mentor once offered me the advice that *"if you never ask, you rarely get."* But someone can't ask for something they don't know exists. The American Psychiatric Association guidelines for the treatment of schizophrenia support the use of Long-Acting Injectable antipsychotics (LAIs) *"if a patient prefers such treatment or if they have a history of poor or uncertain adherence.[1]"* However, the unfortunate truth is that most people with schizophrenia are not even aware that LAIs exist. How would a clinician know if a person living with schizophrenia would prefer treatment with an LAI if they never offered the person that option? Knowledge is power – but only if you are empowered to benefit from it.

The guidelines may be correct that LAIs are a mainstay for those with a history of poor adherence, but they are so much more than that. LAIs can liberate people from the burden of daily pill regimens and ensure 24-hour guaranteed medication levels in the body. Published studies also show they may reduce the risk of relapse, hospitalization, and even death.[2] Furthermore, treatment of any chronic illness with daily medication is uncertain and riddled with poor adherence, regardless of diagnosis! The rate of nonadherence in schizophrenia is estimated to be 45%-80%, comparable to that of coronary heart disease and asthma.[3] The availability of LAI options for other areas, such as osteoporosis and contraception, are considered revolutions in convenience and effectiveness. Rather than associating LAI antipsychotics with the stigma of the *"last resort,"* we should celebrate that schizophrenia is one of the select few conditions for which we are fortunate to have LAI options!

All too often in life, people make snap judgments based on incomplete information or fickle emotions. Sometimes these decisions send us down a path that makes it harder to get back on track with each passing day. Schizophrenia is an insidious illness, directly impairing a person's insight – the awareness and understanding of the seriousness of their psychosis and need for treatment. Antipsychotics help maintain this insight. The body eliminates most oral antipsychotics from their system so quickly that if someone has a bad couple of days and forgets or doesn't want to take their medication for just a short time, the amount in the system could fall below an adequate level. In turn, one's ability to decide to get back on medication could be impaired. Straying from a consistent medication regimen essentially takes the power to make decisions about treatment away from the person and gives it to the disease.

Daily oral medication requires one to fight this battle 365 days a year. While potentially exhausting to the person, brain disorders like schizophrenia persist. Metaphorically speaking, psychotic disorders are relentless in seeking a crack in the person's resolve. And each successive missed day of oral medication can make it seem more enticing not to start retaking it. However, LAIs keep the medication levels consistent for a month or longer. The number of times someone must fight to stay on their medication can be reduced to as few as 12, 6, 4, or just 2 times a year. Even if a scheduled injection is missed, LAIs can offer a longer protection period than oral meds before the therapeutic effect is lost.[4] LAIs are like insurance for your commitment to pursue treatment, giving you a second chance to remain well and avoid rehospitalization.

All psychiatric clinicians have room to expand their usage of LAIs in their practice – even strong advocates like me. I vividly recall a time several years ago that I put a stack of brochures for an LAI in the waiting room of my office. One day, I saw a patient I've worked with for a long time who had done quite well on an oral antipsychotic. When it was time for her appointment, she stormed into my office, clutching the brochure. She waved it animatedly towards me and asked, *"I didn't know I could just get my medication once a month – why didn't you ever offer this to me before?"* I was speechless because I had no excuse – there's no reason I shouldn't have at least offered it to her.

If your clinician has not discussed LAIs with you, empower yourself to start that discussion. Take back the choice about your treatment from your illness!

Dr. Craig Chepke,
Member, Board of Directors, The CURESZ Foundation, Private Practice Psychiatrist, and Adjunct Assistant Professor of Psychiatry, University of North Carolina School of Medicine

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3. CLINICAL RESEARCH

Clinical research involves studies in human volunteers. There are various phases of clinical research that vary in size and purpose to ensure a drug is safe and effective.

Phase 1 studies are the first phase of research. These studies seek information on the safety and appropriate dose of the potential medicine and are typically conducted in 20 to 100 people to ensure the medicine is safe before studying a larger population.

Phase 2 studies typically include several hundred people who have the disease or condition being researched. These studies focus on determining how helpful the medicine is in treating the disease or condition, and what side effects people may experience from taking the medicine.

Phase 3 studies can include up to 3,000 people living with the disease or condition being researched. These studies confirm how helpful the treatment is, and what side effects it may produce, but are larger in size as they aim to provide a definitive assessment of the benefits of the medicine for patients.

As mentioned earlier, the effectiveness of treatments for mental health are measured by questionnaires that are administered throughout the course of the trial. This helps determine whether people feel better while taking the medicine over time.

4. FDA REVIEW

Once the required research is complete, and if it supports a drug being safe and effective for its intended use, companies can submit an application to the FDA for review. The FDA then decides whether or not to approve the medicine.

5. FDA POST-MARKET SAFETY MONITORING

Once the drug is approved by the FDA and accessible to patients, the FDA and the company marketing the drug will continue to monitor the safety of the medicine to ensure it is appropriate for continued use.

As the process underscores, persistent dedication is required to successfully develop new medicines. Although the path to developing treatments for psychiatric conditions has historically been challenging, my colleagues and I at Karuna are not deterred. My career as a physician and drug developer continues to reinforce my dedication to clinical research in psychiatry, as it is critical to advancing new and more effective treatments for those in need.

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Join us for our first annual Anthony Vitucci Memorial Lecture presented by Dr. J. John Mann from Columbia University, titled

Evidence-Based Suicide Prevention: A Road Map for Today & Tomorrow

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Your contribution will help provide education and referrals to persons with schizophrenia, their families, and those who work with the seriously mentally ill. CURESZ informs the general public to better understand this serious brain disorder, and to provide scientific advances showing that there is hope for recovery, and a return to a fulfilling and normal life. The CURESZ Foundation is a 501(c)(3) nonprofit organization. All contributions are tax deductible.

"We are committed to helping individuals to cope with and recover from schizophrenia."

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