Penny Patterson

Usona Institute: The Path Toward Psilocybin and Depression Clinical Trials

PENNY PATTERSON

As winter snow blankets Usona Institute's headquarters here in Madison, Wisconsin, it has been a pleasure to pause and reflect upon our work and growth over the past few years. Throughout the hum of activity involved in establishing our programs, we have seen a steady rise in the interest in our work. We would like to extend our sincere appreciation to our friends at MAPS, who have supported our efforts in so many ways, for the opportunity to share a bit of our story with you in this issue of the *MAPS Bulletin*.

Usona Institute is poised to launch its first clinical trials researching the potential of psilocybin as a treatment for major depressive disorder. With clearance from the U.S. Food and Drug Administration (FDA) to proceed, approval from a central Institutional Review Board (IRB), investigational drug in the final stages of preparation, and thousands of people expressing interest in being a part of this research, Usona anticipates the first clinical sites for these trials to be fully operational by fall 2019. The objective of Usona's psilocybin research program, if the clinical trials are positive, is to receive a new drug approval from the FDA.

As a nonprofit Medical Research Organization (MRO) founded in 2014 by scientist/entrepreneur Bill Linton and physician Malynn Utzinger, Usona's mission is to conduct and support pre-clinical and clinical research to further the understanding of the therapeutic effects of psilocybin and other consciousness-expanding medicines. The inspiration to establish the Institute was sparked by the promising findings of prior academic research on psilocybin's effect on anxiety and depression in people with life-threatening cancer.

It is due to the dedicated teams at institutions like Johns Hopkins University, New York University, the University of California-Los Angeles, and others who have advanced contemporary psilocybin research that this next phase of clinical trials and engagement with the FDA is made possible.

UNDERSTANDING MAJOR DEPRESSIVE DISORDER

As Usona began to focus on the development of its clinical development program, major depressive disorder (MDD) emerged as the most compelling indication to study in its first Phase 2 psilocybin trial.

The World Health Organization lists MDD as the leading cause of disability worldwide, with more than 300 million people struggling with this complex disease. The intensity of emotional and psychological suffering can be immense and can lead those suffering to attempt or commit suicide, of which 800,000 people are victims each year.

Usona's Director of Clinical and Translational Research, Dr. Charles Raison, notes that there have been few significant breakthroughs in the field of depression for over a decade while the need for more effective and fast-acting antidepressant treatments continues to grow. Dr. Raison's expertise is in examining emerging pathways through which major depression evolves and novel mechanisms through which it might be treated. He is leading the development of Usona's study design and protocols in collaboration with other researchers in the field. "The academic findings in this area give us something that we haven't had for some time—they give us hope that entirely new ways to treat depression are on the horizon" says Raison. "We are eager to learn from the larger studies. No matter the outcomes, they will advance our understanding."

THE USONA TEAM

Embracing the challenge of embarking on clinical trials as a non-profit, the Usona team has been developing the robust capabilities and infrastructure required to carry out an FDA-regulated, multi-site clinical program.

Since 2014, Usona's team has grown to 18 employees plus consultants with expertise in clinical research, mental health, pharmacology, medicinal chemistry, regulatory affairs, and others. The organization's internal capabilities are bolstered by additional support coming from the dedicated groups at our Contract Research Organizations (CRO).

In recognition of the theme of this *Bulletin* issue, "Women in Psychedelics," we'd like to note that Usona is fortunate to have many women on its team, serving all areas of expertise—from the founding of the Institution, to leading roles in clinical operations, quality and compliance, drug development, chemis-

try laboratory management, scientific collaboration, communications, and organizational operations. As of late March 2019, of our 18 employees, 13 (72%) are women.

Clinical Operations: Usona's clinical operations include developing the study protocol, a clinical facilitator ("guide") manual, and training protocol; creating and maintaining the Investigator's Brochure for psilocybin; coordinating with CROs for the onboarding and management of clinical research sites; developing quality control systems; and carrying out related nonclinical studies.

Chemistry Manufacturing and Controls: Our initial current Good Manufacturing Practice (cGMP) production of psilocybin was completed in late 2018. With Usona's commitment to "Open Science" and advancing scientific knowledge, psilocybin is being offered to qualified researchers at no cost.

Regulatory Compliance: Usona's study of psilocybin for MDD received central IRB approval and has been cleared to proceed by the FDA under Usona's active Investigational New Drug Application (IND). These approvals represent a major milestone in the research program, enabling Usona to move ahead toward the start of trials later this year at five to seven research sites across the United States.

Medicinal Chemistry: Usona has two chemistry laboratories—one based in Madison, WI and one in San Luis Obispo, CA—each staffed with dedicated Usona medicinal chemists. Both labs have full synthetic and analytical capabilities as well as DEA licenses. While the primary focus is currently on clinical trials for the psilocybin and MDD study, on a separate track there are initiatives to explore the therapeutic potential of new and underexamined molecules.

COLLABORATIONS

In both clinical trials and medicinal chemistry work, Usona has been fortunate to partner with experts within the fields of psychiatry, pharmacology, biology, and neuroscience. Knowledge-sharing and collaboration have been cornerstones of the development of the many dynamic branches of Usona's work. The team is grateful to the researchers at the Johns Hopkins School of Medicine, New York University School of Medicine, Yale School of Medicine, the University of California San Francisco School of Medicine, the University of Wisconsin-Madison School of Pharmacology, the University of Zurich Center for Psychiatric Research, the Multidisciplinary Association for Psychedelic Studies, the Heffter Research Institute, the D'Or Institute for Research and Education, the Hans Knöll Institute, Imperial College London, and many others for their collaborations and mutual dedication to expanding the field of psychedelic science.

NON-PROFIT WORK AND OPEN SCIENCE COMMITMENT

As a non-profit MRO, Usona is committed to serving the public good. The Institute's Open Science model means that it aims to share its discoveries and work within the public domain so that medical and scientific advancements can be made as quickly as possible.

Part of Usona's commitment as a non-profit includes grants and scholarships to projects, academic work, and events that advance knowledge about the potential therapeutic effects of consciousness-expanding medicines.

Of timely note, Usona continues its support to the annual International Forum on Consciousness held in Madison, Wisconsin. This May, thought leaders such as Robin Carhart-Harris and Jack Henningfield among others will lead two days of presentations and discussion on "Psychedelic Therapy in Society: Exploring the Mechanisms of Action and Delivery of Care."

CLINICAL TRIALS INFORMATION

Although Usona is not yet actively recruiting for the MDD and psilocybin trials, those interested in learning more are encouraged to visit the Usona clinical trials website, **usonaclinicaltrials.org**. On the site, those interested in volunteering for this trial may elect to receive updates on study-specific information and recruitment activities. A clinical trial pre-screening tool will be released in the coming months as an initial step in assessing an individual's eligibility to participate in our upcoming study.

OUR GRATITUDE

Usona is supported by the generosity of individuals, families, and organizations who are motivated by the story and the possibilities of this research. There is a high degree of complexity around the needs in regulation, drug development, training, and organizational growth to conduct this phase of sponsored clinical trials. We could not do this work without the intention, trust, and enduring commitment of supporters who share in our dedication to making a positive impact on society and human well-being.

Usona is part of a mosaic of individuals and organizations that have devoted themselves to finding ways to promote healing and meaningful change. Each has an important role to play in this collective vision to reduce suffering. We honor those people who have paved the way for this work and who have committed themselves to creating a more peaceful and resilient world. We thank you for your interest and look forward to sharing more with you as our path unfolds.

A special thanks to the Usona team for contributing their expertise and review to this article.

Penny Patterson *has been the Director of Communications for Usona since its inception, providing consulting and management of the organization's communications, media, and public relations policies and engagements. Penny brings her depth of experience in broadcast journalism, public relations, and marketing communications to the Usona team.*