UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of October 2023

Commission File Number: 001-39458

Medicenna Therapeutics Corp.

(Translation of registrant's name into English)

2 Bloor St. W., 7th Floor Toronto, Ontario M4W 3E2, Canada (Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F. Form 20-F [X] Form 40-F []

Other Events

On October 10, 2023, Medicenna Therapeutics Corp. ("Medicenna" or the "Company") issued a press release announcing the appointment of Humphrey Gardner, M.D. as Chief Medical Officer. The press release is furnished as Exhibit 99.1 to this Form 6-K.

The information set forth above in this Form 6-K with respect to the appointment of Dr. Gardner shall be deemed to be incorporated by reference into the registration statement on Form F-3 (File Number 333-269868) and Form S-8 (File Number 333-240225), and related prospectuses, as such registration statements and prospectuses may be amended from time to time, and to be a part thereof from the date on which this report is filed, to the extent not superseded by documents or reports subsequently filed or furnished.

The information set forth in Exhibit 99.1 to this Form 6-K is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that Section, nor shall it be deemed incorporated by reference in any filing made by the Company under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise set forth herein or as shall be expressly set forth by specific reference in such a filing.

EXHIBIT INDEX

Exhibit Number Description

99.1 Press Release dated October 10, 2023

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

MEDICENNA THERAPEUTICS CORP.

Date: October 10, 2023 By: /s/ Jeff Caravella

Name: Jeff Caravella Title: Chief Financial Officer

Medicenna Therapeutics Appoints Humphrey Gardner, M.D., as Chief Medical Officer

Dr. Gardner brings over 30 years of experience leading clinical development to support innovative oncology programs and translational research at global biopharmaceutical companies and major academic institutions

TORONTO and HOUSTON, Oct. 10, 2023 (GLOBE NEWSWIRE) -- Medicenna Therapeutics Corp. ("Medicenna" or the "Company") (Nasdaq: MDNA TSX: MDNA), a clinical-stage immunotherapy company focused on the development of novel Superkines, today announced the appointment of Humphrey Gardner, M.D., as Chief Medical Officer (CMO) to lead the development strategy and execution of Medicenna's clinical programs.

"We are thrilled to welcome Dr. Gardner as Medicenna's new CMO and member of our management team. Dr. Gardner holds remarkable leadership experiences advancing immune-based therapies for cancer and other diseases from the earliest stages of development through regulatory approvals," said Fahar Merchant, Ph.D., President and Chief Executive Officer of Medicenna. "Dr. Gardner's expertise and dedication to our mission to create life-changing immunotherapies will be beneficial as Medicenna has started the Phase 2 dose expansion trial with MDNA11, our potential best-in-class, next-generation IL-2 super-agonist that targets solid tumors."

"I am very pleased to join Medicenna, especially with the expected upcoming milestones for MDNA11. This Phase 2 candidate shows promising potential to overcome key challenges of first-generation IL-2 candidates. I also look forward to advancing the rest of Medicenna's pipeline created through its Superkine platform, notably MDNA55, an empowered IL-4 Superkine for the treatment of recurrent glioblastoma, which has already generated promising data in Phase 2," said Humphrey Gardner, M.D., CMO of Medicenna. "I am honored to work with the accomplished Medicenna team and build on their differentiated science to bring transformative immunotherapies to people with cancer."

Dr. Gardner's career in the biopharmaceutical industry spans over two decades. Most recently, Dr. Gardner served as CMO at Harbour BioMed advancing novel antibody and bispecific therapeutics in oncology. Previously, he was the CMO at Stingthera, CMO in Residence at Roivant Sciences and Chief of Medical Oncology at Evelo Biosciences, a Flagship Pioneering company. Prior to this, Dr. Gardner held senior roles at AstraZeneca as Clinical Vice President Translational Medicine, Oncology; Novartis as Executive Director, Oncology Translational Laboratories; and Biogen. Previously, in academia, Dr. Gardner was Assistant Professor at The Scripps Research Institute, Research Fellow at the Whitehead Institute at MIT and Clinical Fellow at Harvard Medical School, and he completed his internship at the Memorial University of Newfoundland. Dr. Gardner is a Fellow of the College of American Pathologists and has authored nearly 100 publications. Dr. Gardner holds a bachelor's degree in Biochemistry and his medical degree from the University of Cambridge.

About Medicenna Therapeutics

Medicenna Therapeutics is a clinical-stage immunotherapy company developing novel, highly selective Superkines designed to improve the specificity, function and safety profile of unmodified interleukins. Medicenna's Superkine Platform, its drug discovery engine, enables flexibility to transform Superkines into multi-functional therapies that can be delivered directly to where they are needed the most. The Company's initial focus is on developing interleukin-2 (IL-2), IL-4 and IL-13 super-agonists and antagonists. MDNA11, a potential best-in-class, next-generation IL-2 super agonist targeting solid tumors, is currently in a Phase 2 monotherapy dose expansion trial and expected to begin a Phase 2 pembrolizumab combination trial in the fourth quarter of 2023. Medicenna's novel platform is comprised of Bifunctinal SuperKine Immunotherapies (BiSKITs) which have demonstrated superior anti-tumor activity in preclinical studies, even in hard-to-treat 'cold' tumors. Medicenna's IL-4-empowered Superkine, bizaxofusp (MDNA55), has completed a Phase 2b trial for recurrent glioblastoma and holds FastTrack and Orphan Drug status from the U.S. Food and Drug Administration (FDA) and FDA/European Medicines Agency, respectively. For more information, please visit https://www.medicenna.com/.

Forward-Looking Statements

This news release contains forward-looking statements within the meaning of applicable securities laws that relate to the future operations of the Company, plans and projections and other statements that are not historical facts, including, without limitation, statements on the Company's clinical development activities, potential and upcoming milestones, including with respect to MDNA11, the Superkine platform, notably MDNA55 and the potential benefits that may be realized as a result of new members of the management team. Forward-looking statements are often identified by terms such as "will", "may", "should", "anticipate", "expect", "believe", "seek", "potentially" and similar expressions. and are subject to risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Important factors that could cause actual results to differ materially from the Company's expectations include the risks detailed in the latest Annual Information Form and Annual Report on Form 20-F of the Company and in other filings made by the Company with the applicable securities regulators from time to time in Canada and the United States.

The reader is cautioned that assumptions used in the preparation of any forward-looking information may prove to be incorrect. Events or circumstances may cause actual results to differ materially from those predicted, as a result of numerous known and unknown risks, uncertainties, and other factors, many of which are beyond the control of the Company. The reader is cautioned not to place undue reliance on any forward-looking information. Such information, although considered reasonable by management, may prove to be incorrect and actual results may differ materially from those anticipated. Forward-looking

statements contained in this news release are expressly qualified by this cautionary statement. The forward-looking statements contained in this news release are made as of the date hereof and except as required by law, we do not intend and do not assume any obligation to update or revise publicly any of the included forward-looking statements.

Investor/Media Contact:

Delphine Davan Vice President, Investor Relations and Corporate Communications +1 (647) 474-2641 ddavan@medicenna.com