

# PharmaTher Advancing Research for Novel Microneedle Delivery of Ketamine

*Represents a potential next-generation treatment for neuropsychiatric, neurodegenerative and pain disorders*

TORONTO, March 24, 2021 /CNW/ - Newscope Capital Corporation (CSE: PHRM) (OTCQB: PHRRF), today announced that its wholly-owned subsidiary, PharmaTher Inc. ("PharmaTher"), a psychedelics biotech company, has entered into a sponsored research agreement with The Queen's University of Belfast ("QUB") for the development of a patented hydrogel-forming microneedle ("MN") patch to deliver ketamine and the PharmaTher's proprietary ketamine formulation, KETABET™. This advance represents a potential next-generation treatment for neuropsychiatric, neurodegenerative and pain disorders.

The research will be led by Professor Ryan Donnelly, a world leader in the research of microneedle delivery technologies. Most recently, Professor Donnelly's lab successfully completed research and published a paper titled *Hydrogel-forming microneedle arrays as a therapeutic option for transdermal esketamine delivery*. His research validates the delivery of esketamine, the S(+) enantiomer of ketamine, in a novel microneedle patch which may overcome the drawbacks associated with ketamine administration in an intravenous or nasal spray format.<sup>1</sup>

The proposed ketamine and KETABET™ MN patch offer a potential game-changing therapeutic solution for various unmet medical needs. Ketamine is becoming an emerging treatment option for major depressive disorder<sup>2</sup>, bipolar depression<sup>3</sup>, depression with suicidal ideation<sup>4</sup> and post-traumatic stress disorder<sup>5</sup>. Despite its potential, ketamine has the potential for abuse and misuse—leading to problems such as dissociative, hallucinogenic and amnesic effects<sup>6</sup>. These risks have led to its limited clinical use and discontinuation.

KETABET™ has shown in clinical research to enhance the antidepressant effect while having the potential to significantly reduce the known negative side effects of ketamine.<sup>7</sup>

PharmaTher's patented MN technology consists of hydrogel-forming microneedle arrays and accompanying reservoir (Figure #1) which will overcome any limitations by the quantity of drug that can be loaded into the needles or onto the needle surfaces. As such, the MN technology can greatly increase the amount of drug that can permeate through the microneedle array and into the skin<sup>8</sup>.

As a result, PharmaTher's KETABET™ MN patch aims to empower patients to dose their medication remotely, safely and conveniently rather than being under supervision by a healthcare provider at a certified medical office. KETABET™ MN patch has the potential for enabling continuous delivery of KETABET™ (without pain) with minimal formulation manipulation into systemic circulation while maintaining constant plasma levels for more than 24 hours that will improve efficacy and compliance for patients.<sup>1,8</sup>

Also, PharmaTher's KETABET™ MN patch will incorporate anti-tampering and anti-abuse features. The combined presence of ketamine and betaine and the delivery format of the product would parallel the approach used by tamper-resistant transdermal fentanyl patches.

Ketamine was approved by the FDA in 1970 and is clinically used for analgesia, sedation, and anesthetic induction. The FDA granted Fast Track and Breakthrough Therapy designations for SPRAVATO® (esketamine) nasal spray and in March 2019 approved SPRAVATO®, in conjunction with an oral antidepressant, for treatment-resistant depression to Janssen Pharmaceuticals, Inc. SPRAVATO® requires numerous administration sessions in a certified medical office under medical supervision by a health care provider.<sup>9</sup> An equity analyst predicted that SPRAVATO® could generate \$3 billion in peak sales.<sup>10</sup>

"The potential for ketamine is significant and we are leading the way to develop a better ketamine solution to treat these unmet medical needs," said Fabio Chianelli, CEO of PharmaTher. "We believe that ketamine and our proprietary ketamine formulation, KETABET™, delivered in the patented microneedle patch could potentially change the ways that mental health, neurodegenerative and pain disorders are treated. We are pursuing the clinical development of KETABET™ MN patch to overcome the current limitations of ketamine and to unlock the known potential therapeutic value of ketamine as a prescription for regulatory approval worldwide. We look forward to working with Professor Donnelly in delivering the next generation ketamine solution."

Professor Ryan Donnelly commented, "Our lab has successfully delivered esketamine using our patented microneedle technology, which shows the potential of an alternative delivery method that can overcome the limitations of current ketamine delivery options without comprising the safety and compliance of patients. We are excited to work with PharmaTher in their quest to develop a next generation ketamine solution that could help the millions of people who suffer from mental health worldwide."

PharmaTher will focus on developing a microneedle patch for FDA approval to better deliver psychedelics that may overcome the potential drawbacks of oral administration, subcutaneous injections, topical and nasal delivery systems.

## About PharmaTher Inc.

PharmaTher Inc., a wholly-owned subsidiary of Newscope Capital Corporation (CSE: PHRM) (OTCQB: PHRRF), is a specialty life sciences company focused on the research and development of psychedelic pharmaceuticals for FDA approval to treat neuropsychiatric, neurodegenerative and pain disorders.

Learn more at: [PharmaTher.com](https://www.pharmather.com) and follow us on [Twitter](#) and [LinkedIn](#).

*Neither the Canadian Securities Exchange nor its Regulation Services Provider have reviewed or accept responsibility for the adequacy or accuracy of this release.*

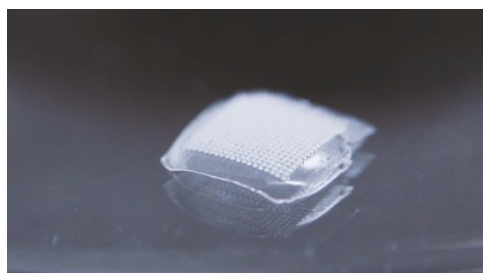
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This press release contains 'forward-looking information' within the meaning of applicable Canadian securities legislation. These statements relate to future events or future performance. The use of any of the words "could", "intend", "expect", "believe", "will", "projected", "estimated", "potential", "aim" and similar expressions and statements relating to matters that are not historical facts are intended to identify forward-looking information and are based on the Newscope Capital Corporation's (the "Company") current belief or assumptions as to the outcome and timing of such future events. Forward-looking information is based on reasonable assumptions that have been made by the Company at the date of the information and is subject to known and unknown risks, uncertainties, and other factors that may cause actual results or events to differ materially from those anticipated in the forward-looking information. Given these risks, uncertainties and assumptions, you should not unduly rely on these forward-looking statements. The forward-looking information contained in this press release is made as of the date hereof, and Company is not obligated to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, except as required by applicable securities laws. The foregoing statements expressly qualify any forward-looking information contained herein. Factors that could cause actual results to differ materially from those anticipated in these forward-looking statements are described under the caption "Risk Factors" in Company's management's discussion and analysis for the period of November 30, 2020 ("MD&A"), dated January 27, 2021, which is available on the Company's profile at [www.sedar.com](http://www.sedar.com).

This news release does not constitute an offer to sell or the solicitation of an offer to buy, and shall not constitute an offer, solicitation or sale in any state, province, territory or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state, province, territory or jurisdiction.

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Microneedle Patch Prototype (CNW Group/Newscope Capital Corporation)

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