March 30, 2023

NRx Pharmaceuticals Reports Full Year 2022 Financial Results and Provides Business Update

- Over the past 12 months, the Company reinitiated its psychiatry development program post pandemic, transferred manufacturing of NRX-101 to the US, and initiated a clinical trial in suicidal treatment-resistant bipolar depression, which was recently reviewed by the independent Data Safety Monitoring Board (DSMB)
- The DSMB identified no safety or futility signals in the first 50 patients with Suicidal Treatment-Resistant Bipolar Depression enrolled in the trial; enrollment to continue as planned
- The current trial has been upgraded to a Phase 2b/3 study that may be used for a registrational filing; on track to report topline clinical data in 4Q 2023
- Initiated registrational Phase 3 clinical trial of NRX-101 in patients with bipolar depression with acute suicidal ideation and behavior (ASIB) and held Type B meeting with U.S. FDA in 1Q 2023, which provided important input to the NRX-101 program
- Ended 2022 with $20.1 million in cash and cash equivalents and announced subsequent $2.9 million registered direct offering in March 2023 to support pipeline of life-saving therapeutics.
- Two international leaders in Psychiatry, Prof. Andrew Nierenberg of Harvard Medical School and Prof. Marion Leboyer, of INSERM, Paris have joined the NRx Advisory Board

RADNOR, Pa., March 30, 2023 /PRNewswire/ -- NRx Pharmaceuticals, Inc. (Nasdaq: NRXP) ("NRx Pharmaceuticals", the "Company"), a clinical-stage biopharmaceutical company, today announced its financial results for the full year 2022 and provided a business and clinical update.

NRx Pharmaceuticals Reports Full Year 2022 Financial Results and Provides Business Update

"2022 was an exciting year of continued execution for NRx Pharmaceuticals as we reinitiated our psychiatry drug development program post-pandemic and advanced clinical development for our lead investigational compound, NRX-101, in Suicidal Treatment-Resistant Bipolar Depression," said Stephen Willard, J.D., Chief Executive Officer and Director of NRx Pharmaceuticals. "We are delighted to augment our advisory board with two world-class leaders in psychiatry, Professors Andrew Nierenberg of Harvard Medical School, and Marion Leboyer of INSERM, one of France's leading universities. Prof. Nierenberg also serves as Principal Investigator of our ongoing Clinical Trials. The first few months of 2023 have been particularly productive. We initiated a Phase 3 registrational clinical trial for NRX-101 in patients suffering from severe bipolar depression with acute suicidality and received an encouraging DSMB readout for a second trial in the far broader indication of Suicidal Treatment-Resistant Bipolar Depression. We are following guidance from FDA to broaden the indication for our medicine to the large population of patients treated in the outpatient setting who do not require acute stabilization with ketamine. Of note, with this guidance, we believe the design of this study has effectively converged with our ongoing Phase 2b/3 outpatient trial. This is the first time, to our knowledge, that patients with suicidal ideation have been welcomed in a clinical trial of an oral antidepressant. Currently, the only approved treatment for patients with suicidality in depression is electroshock therapy, with its known complications.

"It is an exciting time to be a part of NRx Pharmaceuticals as we look ahead to multiple near-term catalysts on track for 2023 and 2024. Based on our newly-completed US-based manufacture of phase 3 scale medication using the expected commercial process, we have upgraded our outpatient trial to a phase 2b/3 study that may

be used for registrational purposes, should it demonstrate safety and efficacy. We look forward to topline clinical data from this trial by the first quarter of 2024. We are also initiating an Expanded Access Program for NRX-101 to serve patients who have exhausted approved medicines for bipolar depression and to build the safety database requested by the FDA as part of the enlarged outpatient indication they recommended in our recent Type B meeting. As we continue to progress our portfolio of potentially life-saving therapeutics in a turbulent macroeconomic market, we are well-positioned following our registered direct offering to continue to advance our mission of meeting the needs of underserved patients with serious CNS disorders."

NRX-101 is a fixed dose combination of D-cycloserine, an NMDA antagonist, and lurasidone, a 5HT2a atypical antipsychotic and antidepressant, under investigation for the treatment of Suicidal Treatment-Resistant Bipolar Depression .

Fourth Quarter and Recent Clinical and Regulatory Highlights

NRX-101 Lead Indication – Acute Suicidal Ideation and Behavior (ASIB)

- In January 2023, the Company initiated a Phase 3 registrational clinical trial of NRX-101 for the treatment of severe bipolar depression with acute suicidal ideation and behavior (SBD-ASIB). The trial is a double-blind, adaptive trial with a 2:1 randomization favoring NRX-101 vs. lurasidone alone. The study is seeking to prove that following a successful response to a single infusion of ketamine (NRX-100), treatment with NRX-101 is superior to lurasidone in maintaining improvement in symptoms of depression as measured by the MADRS-10 total score. Based on Phase 2 STABIL-B findings, the FDA granted Breakthrough Therapy Designation (BTD) and a Special Protocol Agreement (SPA) for NRX-101 in SBD-ASIB. The BTD allows for an expedited rolling submission of a new drug application (NDA) for investigational drugs that have demonstrated substantial improvement over existing approved therapies, and the SPA allows for a single registrational trial of NRX-101 in SBD-ASIB after stabilization with ketamine, using a protocol similar to the STABIL-B trial with a patient population of less than 100.

- In January 2023, the Company reported that it reached alignment with the FDA on its proposed registration manufacturing plan for the Phase 3 trial of NRX-101 in SBD-ASIB. As previously announced in October 2022, NRx received a request from the FDA for Type C guidance on the chemistry, manufacturing and controls (CMC) aspects of the NRX-101 program, and the Company submitted an updated NRX-101 module 3 to add the intended commercial stage manufacturing process for drug product in the Phase 3 registrational clinical trial.

- In January 2023, NRx held a Type B meeting with the FDA's Psychiatry Division to align on the registration strategy for NRX-101 and liaise on its intended indication, which initially was for the treatment of adults with SBD-ASIB. In addition to reaffirming NRX-101's SPA, which was originally granted in April 2019, the FDA suggested that NRX-101's clinical development program be enlarged to allow for the treatment of patients with bipolar depression and suicidality in the outpatient setting. This recommendation was consistent with the NRX-101_003 trial (NCT 03395392) and addresses a population believed to encompass approximately 1 million Americans with suicidal treatment-resistant bipolar depression for whom there is no approved drug. In recommending that the Company pursue this larger indication, FDA identified the need for a safety database of 1,500 patients. The Company is initiating an Expanded Access Program to both serve the needs of patients who have exhausted approved medicines for bipolar depression and to build that safety database.

NRX-101 Indication – Suicidal Treatment-Resistant Bipolar Depression (formerly Sub-acute Suicidal Ideation and Behavior (SSIB)

- In March 2023, NRx reported that the DSMB examined unblinded study data to assess the study for safety and potential futility., The DSMB recommended continuation of patient enrollment as planned. As defined in the study's Statistical Analysis Plan, in order to determine non-futility and to recommend further enrollment,

the DSMB must identify a potential (though not yet statistically-significant) advantage of NRX-101 vs. the lurasidone comparator. The DSMB further identified no safety concerns.

- The Phase 2b/3 double-blind study aims to demonstrate reduction in depression and suicidal ideation over six weeks, which is the standard time frame for oral antidepressant medicines. With the upgrading of this trial to a phase 2b/3 trial which may be used for registrational purposes. This patient population could represent up to 1 million bipolar depression patients in the US and represents a portion of the indication expansion recommended in recent correspondence with the FDA

Consolidated NRX-101 Program in Suicidal Treatment-Resistant Bipolar Depression

- Based on the comments and guidance from the FDA in its recent Type B meeting regarding the registrational Acute Suicidality trial and a potentially broader indication, as well as the guidance it received from the DSMB regarding the ongoing Phase IIb/3 clinical study of NRX-101 for the treatment of severe bipolar depression in patients with SSIB, the Company is evaluating changes to its registrational program for NRX-101 and will seek to consolidate patients originally expected to enroll in the in the ASIB study into the currently enrolling Phase 2b/3 trial. This would potentially allow registration of NRX-101 for Suicidal Treatment-Resistant Bipolar Depression, regardless of the mechanism of stabilization. With the FDA's guidance to enroll patients for the acute (SPA) study in the outpatient setting only after stabilization, the design of this trial has effectively converged with the currently enrolling phase IIb/3 trial; patients within both groups are deemed to have treatment resistant bipolar depression with suicidality. This broader indication may also offer significant advantages in commercialization, while negating the need for a separate NDA for ketamine in Suicidal stabilization. Data are expected by 4Q 2023.

NRX-101 Indication – Post Traumatic Stress Disorder (PTSD)

- In September 2022, NRx announced plans to investigate PTSD as an additional indication. The Company expects to commence Phase 2 clinical trial planning of NRX-101 in PTSD in 2Q 2023.
- Depression in PTSD may be driven by pathways that are similar to those that drive depression in other conditions (NMDA and 5-HT2A). Additionally, approximately 10% of patients with PTSD may experience suicidality, especially those with severe PTSD.
- In a preclinical PTSD study, D-cycloserine, a component of NRX-101, demonstrated the ability to extinguish recurring images of traumatic events, also known as fear memory, in a validated WKY model of PTSD. Ketamine has demonstrated an effect on this debilitating symptom of PTSD. Should NRX-101 have a similar beneficial effect, it has the potential to be the first labeled medicine for PTSD symptoms.

Corporate Updates

- In December 2022, NRx Pharmaceuticals and Relief Therapeutics announced the close of their definitive settlement agreements to resolve and dismiss their pending litigation. Per the terms of the settlement, NRx Pharmaceuticals transferred all of the assets it used in the NRx aviptadil development program to Relief Therapeutics, including the regulatory filings, patent applications, clinical data and the formulation of the aviptadil product it was previously developing. Relief Therapeutics now has the exclusive right and control going forward, with the obligation to use commercially reasonable efforts to develop and commercialize an aviptadil product. Pending commercial approval of an aviptadil product (whether for COVID-19 or any other indication), Relief will pay NRx Pharmaceuticals milestone payments and royalties based on a percentage of future sales of an aviptadil product, up to a maximum of $30 million in royalties in the aggregate.

- In February 2023, the Company received notice of the issuance of a U.S. patent covering the lead formulation, NRX-101, a glycine site NMDA antagonist in clinical trials to treat bipolar depression with acute and subacute suicidality. This new patent covers the use of NRX-101 to treat patients suffering from depression, including bipolar depression or major depression (MDD) with or without suicidality and strengthens the Company's intellectual property position until at least 2033.

- In March 2023, the Company announced the close of a $2.9 million registered direct offering. Participants were existing investors, and the Company anticipates using the proceeds to initiate its national treatment protocol and safety database for NRX-101 for treatment-resistant bipolar depression with risk of self-harm under an FDA expanded access protocol, and to advance its pipeline of life-saving therapeutics.

Financial Results for Twelve Months ended December 31, 2022

- For the year ended December 31, 2022, NRx Pharmaceuticals recorded $17.0 million of research and development expenses compared to $20.3 million for the year ended December 31, 2021. The decrease of $3.2 million is related primarily to a decrease of $2.5 million in clinical trials and development expenses related to ZYESAMI, $0.7 million in stock-based compensation expense, $0.8 million related to fees paid to regulatory and process development consultants, partially offset by an increase of $0.5 in other regulatory and process development costs and $0.3 million in shipping, freight, and delivery costs. The $17.0 million and $20.3 million of research and development expenses for the years ended December 31, 2022 and 2021, respectively, include $0.6 million and $1.3 million, respectively, of non-cash stock-based compensation.

- For the year ended December 31, 2022, NRx Pharmaceuticals recorded $27.4 million of general and administrative expenses compared to $74.9 million for the year ended December 31, 2021. The decrease of $47.6 million was primarily, related to a decrease of $53.3 million in consultant fees, of which $41.0 million related to the fair value of common stock issued and $4.8 million related to the fair value of the 200,000 shares of Common Stock issued and $3.4 million in stock-based compensation expense, partially offset by an increase of $3.7 million in insurance expenses, $3.4 million in legal, professional and accounting fees, $1.5 million in employee expenses, and $0.5 million in other general and administrative expenses. The $27.4 million and $74.9 million of general and administrative expenses for the years ended December 31, 2022 and 2021, respectively, include $3.1 million and $60.3 million, respectively, of non-cash stock-based compensation.

- Net loss for the twelve months ended December 31, 2022, was $39.8 million compared with a net loss of $93.1 million for the twelve months ended December 31, 2021.

- As of December 31, 2022, the cash balance was $20.1 million compared to $27.6 million as of December 31, 2021.

- On March 8, 2023, NRx Pharmaceuticals entered into a securities purchase agreement with accredited investors (the "Investors"), providing for the issuance and sale of 3,866,666 shares of the Company's common stock ("Common Stock") and warrants to purchase up to 3,866,666 shares of Common Stock (the "Investor Warrants") in a registered direct offering priced at-the-market under Nasdaq rules for a purchase price of $0.75 per share (the "Offering"). The Investors have agreed not to transfer the Common Stock for six months following the date hereof. The Investor Warrants will have an exercise price of $0.75 per share, will be initially exercisable beginning six months following the date of issuance (the "Initial Exercise Date") and will expire 5 years from the Initial Exercise Date. The aggregate gross proceeds to the Company from the Offering are expected to be approximately $2.9 million. The Company intends to use the net proceeds from such offering for working capital and general corporate purposes. The closing of the sale of these securities occurred on March 9, 2023.

Conference Call and Webcast Details

A live webcast of the conference call will be available on the Company's website at https://ir.nrxpharma.com/news-events/ir-calendar. An archive of the webcast will be available on the Company's website for 30 days. Participants that are unable to join the webcast can access the conference call via telephone by dialing domestically +1 (833) 630-1956 or internationally +1 (412) 317-1837.

About NRX-101

Up to 50% of individuals with bipolar disorder attempt suicide over their lifetime, and estimates indicate that up to 20% may succumb to suicide. The only FDA-approved treatment for patients with bipolar depression and acute suicidal ideation & behavior (ASIB) remains electroconvulsive therapy (ECT).

Conventional antidepressants can increase the risk of suicide in certain patients; hence their labels contain a warning to that effect. NRX-101 is a patented, oral, fixed dose combination of D-cycloserine and lurasidone, neither of which has shown addiction potential in preclinical models. Based on the results of a Phase 2 proof-of-concept study, NRX-101 received Breakthrough Therapy Designation from the FDA for the treatment of severe bipolar depression in patients with ASIB after initial stabilization with ketamine or other effective therapy.

NRX-101 is one of the first oral antidepressants currently in late-stage clinical studies targeting the NMDA-receptor in the brain, which represents potentially a key new mechanism to treat depression with and without suicidality, as well as PTSD and other indications. To date, NRX-101 is the only oral NMDA investigational medicine focused on bipolar depression in patients with acute and sub-acute suicidality.

About NRx Pharmaceuticals

Clinical-stage biopharmaceutical company developing therapeutics for the treatment of central nervous system disorders, specifically suicidal depression and post-traumatic stress disorder (PTSD). The company's lead program NRX-101, an oral, fixed-dose combination of D-cycloserine and lurasidone, targets the brain's NMDA receptor and is being investigated in a Phase 3 trial under an FDA Special Protocol Agreement and Breakthrough Therapy Designation in patients with bipolar depression and suicidal ideation, an indication for which the only approved treatment is electroshock therapy. NRx Pharmaceuticals has also initiated a Phase 2b clinical trial in patients with Sub-Acute Suicidality, a substantially broader indication. The Breakthrough Therapy Designation and Special Protocol Agreement were awarded by the FDA based on the Company's prior STABIL-B trial that demonstrated substantial improvement over available therapy in reducing depression and suicidality compared to placebo when patients were treated with NRX-101 after a single dose of ketamine.

Cautionary Note Regarding Forward-Looking Statements

This announcement of NRx Pharmaceuticals, Inc. includes "forward-looking statements" within the meaning of the "safe harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995, which may include, but are not limited to, statements regarding our financial outlook, product development, business prospects, and market and industry trends and conditions, as well as the Company's strategies, plans, objectives, and goals. These forward-looking statements are based on current beliefs, expectations, estimates, forecasts, and projections of, as well as assumptions made by, and information currently available to, the Company's management.

The Company assumes no obligation to revise any forward-looking statement, whether as a result of new information, future events or otherwise. Accordingly, you should not place reliance on any forward-looking statement, and all forward-looking statements are herein qualified by reference to the cautionary statements set forth above.

NRX PHARMACEUTICALS, INC.

CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

	December 31,	
	2022	**2021**

ASSETS		
Current assets:		
Cash and cash equivalents	$ 20,054	$ 27,605
Prepaid expenses and other current assets	5,741	5,109
Total current assets	25,795	32,714
Other assets	21	15
Total assets	$ 25,816	$ 32,729
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 2,076	$ 3,687
Accrued and other current liabilities	4,855	2,375
Accrued clinical site costs	914	469
Earnout Cash liability	—	4,582
Convertible note payable and accrued interest - short term	8,703	—
Warrant liabilities	37	292
Note payable and accrued interest	—	518
Total current liabilities	16,585	11,923
Convertible note payable and accrued interest - long term	1,822	—
Total liabilities	$ 18,407	$ 11,923
Preferred stock, $0.001 par value, 50,000,000 shares authorized; 0 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	—	—
Common stock, $0.001 par value, 500,000,000 shares authorized; 66,442,989 and 58,810,550 shares issued and outstanding at December 31, 2022 and 2021, respectively	67	59
Additional paid-in capital	230,401	203,990
Accumulated deficit	(223,059)	(183,243)
Total stockholders' equity	7,409	20,806
Total liabilities and stockholders' equity	$ 25,816	$ 32,729

NRX PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except share and per share data)

	Year ended December 31,	
	2022	**2021**
Operating expenses:		
Research and development	$ 17,027	$ 20,257
General and administrative	27,370	74,944
Settlement expense	—	21,366
Reimbursement of expenses from Relief Therapeutics	—	(771)
Total operating expenses	44,397	115,796
Loss from operations	(44,397)	(115,796)
Other (income) expenses:		
Gain on extinguishment of debt	—	(121)
Interest income	(249)	—
Interest expense	—	18
Change in fair value of convertible note payable	505	—
Change in fair value of warrant liabilities	(255)	(1,692)
Change in fair value of Earnout Cash liability	(4,582)	(20,938)

Total other (income) expenses	(4,581)	(22,733)
Loss before tax	(39,816)	(93,063)
Provision for income taxes	—	—
Net loss	(39,816)	(93,063)
Deemed dividend	—	(255,822)
Net loss attributable to common stockholders	$ (39,816)	$ (348,885)
Net loss per share:		
Basic	$ (0.61)	$ (1.98)
Diluted	$ (0.61)	$ (1.98)
Net loss per share attributable to common stockholders:		
Basic	$ (0.61)	$ (7.44)
Diluted	$ (0.61)	$ (7.44)
Weighted average common shares outstanding:		
Basic and diluted	65,766,786	46,917,701

SOURCE NRx Pharmaceuticals, Inc.

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