RespireRx Pharmaceuticals Inc. to Present at 2017 Rodman & Renshaw Conference

CEO to Review dronabinol, a Phase III-ready medicine for the treatment of Obstructive Sleep Apnea, and Provide Pipeline update

Glen Rock, N.J., September 8, 2017/Globe Newswire – RespireRx Pharmaceuticals Inc. (OTC QB: RSPI) ("RespireRx" or the "Company"), a leader in the development of medicines for the treatment of respiratory disorders, including sleep apnea, opioid-induced respiratory depression, and respiratory insufficiency due to spinal cord injury, announces that the Company's Chief Executive Officer and Vice Chairman of the Board of Directors, James S. Manuso, Ph.D., will present at the 2017 Rodman & Renshaw Conference on Tuesday, September 12, 2017 at 1:45 PM Eastern Time The presentations will be held at the Palace Hotel in New York, September 11-12, 2017.

Dr. Manuso will discuss RespireRx's successfully completed Phase IIB clinical trial of dronabinol in the treatment of obstructive sleep apnea, and will present the results of a Phase IIA trial evaluating the ability of CX-1739 (oral) to antagonize the drug-induced respiratory depression produced by the powerful opioid, remifentanil. He will also provide updated information and clinical development plans for the company's pipeline products.

Dr. Manuso's presentation will be available by live webcast streaming online and will be archived. To access the live audio webcast, go to **http://wsw.com/webcast/rrshq27/rspi**. A copy of the slide presentation to be presented at the conference will be submitted to the Securities and Exchange Commission in a Current Report on Form 8-K prior to the presentation and will also be available in the investors section of the RespireRx website.

About RespireRx Pharmaceuticals Inc.

RespireRx Pharmaceuticals Inc. is a leader in the development of medicines for respiratory disorders, with a focus on sleep apneas and drug-induced respiratory depression. The Company has licensed and owns patents and patent applications, and holds exclusive licenses, for certain use patents for the use of ampakines for the treatment of disordered breathing. During the first quarter of 2018, the Company plans to meet with FDA to discuss its Phase III clinical trial program to test the safety and efficacy of dronabinol for the treatment of obstructive sleep apnea.

RespireRx's pharmaceutical candidates in development are derived from two platforms, as described below.

The first platform is the class of compounds known as cannabinoids, in particular, dronabinol. Under a license agreement with the University of Illinois, the Company has rights to patents covering the use of cannabinoids for the treatment of sleep-related breathing disorders. In a double-blind, placebo-controlled, dose-ascending Phase IIA clinical study, dronabinol produced a statistically significant reduction in the Apnea-Hypopnea Index, the primary therapeutic end-point, and was observed to be safe and well-tolerated in a group of patients with Obstructive Sleep Apnea (OSA). These results were confirmed by a Phase IIB trial at the University of Illinois at Chicago and Northwestern University in which dronabinol proved to be safe and efficacious for the treatment of OSA in a six week, double-blind, placebo-controlled clinical trial in 56 patients with OSA. This study, which the University of Illinois completed during the third quarter of 2016, was fully funded by the National Heart, Lung and Blood Institute of the National Institutes of Health.

The second platform of medicines being developed by RespireRx is a class of proprietary compounds known as ampakines that act to enhance the actions of the excitatory neurotransmitter glutamate at AMPA glutamate receptor sites in the brain. Several ampakines are being developed by the Company for the treatment of a variety of breathing disorders. In a recently completed Phase IIA clinical trial, CX-1739, one of our lead clinical compounds, was shown to reduce the respiratory depression produced by remifentanil, a potent opioid, without altering its analgesic effects. In a pilot study of sleep apnea, CX1739 has demonstrated early promise in the treatment of central sleep and mixed apneas. The Company plans to initiate a clinical trial in spinal cord injury patients with respiratory insufficiency based on positive pre-clinical findings from studies performed by our collaborators at the University of Florida.

The Company is also collaborating with academic researchers on translational research programs to develop the ampakines for the treatment of orphan diseases, including Pompé Disease, Fragile-X Syndrome, and perinatal respiratory distress, where the ampakines have shown effectiveness in animal models.

Additional information about the Company and the matters discussed herein can be obtained on the Company's web-site at www.RespireRx.com or in the Company's filings with the U.S. Securities and Exchange Commission on EDGAR at www.sec.gov.

Clinical Trial Plans for 2017 - Phase III Clinical Trial plans for Development of dronabinol

As reported in a press release and on Form 8-K on December 23, 2016, RespireRx announced positive results of the PACE (Pharmacotherapy of Apnea by Cannabimimetic Enhancement) trial conducted by Drs. David Carley and Phyllis Zee at the University of Illinois at Chicago and Northwestern University, respectively. The PACE trial, a Phase 2B study of dronabinol for the treatment of obstructive sleep apnea ("OSA"), clearly demonstrated that dronabinol significantly improved the primary outcome measures of Apnea Hypopnea Index ("AHI"), daytime sleepiness as measured by the Epworth Sleepiness Scale ("ESS") and overall patient satisfaction as measured by the Treatment Satisfaction Questionnaire for Medications ("TSQM"). Based on these results, RespireRx will engage with FDA in Q1/2018 to agree upon the next steps in connection with the initiation of a pivotal Phase III clinical trial program testing the safety and efficacy of dronabinol in the treatment of obstructive sleep apnea.

Clinical Trial Plans for 2017 - Phase IIB Trial of CX1739 in Central Sleep Apnea

As previously reported, an acute dose of CX1739 improved respiratory function of subjects in a phase IIA trial of opioid induced respiratory depression using a clinical model of chronic opioid use. As a follow-up, RespireRx is planning a Phase II multiple dose study of CX1739 in subjects who are on chronic opioid therapy. Among patients on chronic opioid therapy for at least 6 months, the presence of apnea and hypopnea has been diagnosed in 50% - 75% of patients screened. Initially, these symptoms usually appear during sleep and are considered, by the National Institutes of Health (NIH) and the National Institute of Drug Addiction (NIDA), to be significant risk factors for opioid addiction and overdose. Therefore, the Phase 2 study is planned to evaluate the ability of CX1739 treatment to reduce apnea and hypopnea associated with central sleep apnea.

Comments by the Company's President and Chief Executive Officer

Dr. James S. Manuso, commented, "We look forward to advancing the many initiatives RespireRx is undertaking throughout the course of 2017. Now that the Company is Phase III-ready with

respect to the final clinical and regulatory development of dronabinol for the treatment of obstructive sleep apnea, commercialization and potential partnering plans have been initiated. With dronabinol's Phase III trial on the horizon, along with the Company's Phase II ampakines in development, there are numerous strategic and operational milestones on the calendar. In 2017 we will continue to focus on the clinical and regulatory development of the Company's two proprietary platforms for addressing unmet needs in the sleep apnea and opioid-induced respiratory depression markets. In addition, we will continue to support the scientific research and pre-clinical development upon which RespireRx is based. I look forward to reporting to you our progress in the months ahead."

Cautionary Note Regarding Forward-Looking Statements:

This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and the Company intends that such forward-looking statements be subject to the safe harbor created thereby. These might include statements regarding the Company's financial position, business strategy and other plans and objectives for future operations, and assumptions and predictions about research and development efforts, including, but not limited to, preclinical and clinical research design, execution, timing, costs and results, future product demand, supply, manufacturing, costs, marketing and pricing factors are all forward-looking statements.

In some cases, forward-looking statements may be identified by words including "anticipates," "believes," "intends," "estimates," "expects," "plans," and similar expressions include, but are not limited to, statements regarding (i) future research plans, expenditures and results, (ii) potential collaborative arrangements, (iii) the potential utility of the Company's proposed products, and (iv) the need for, and availability of, additional financing.

The forward-looking statements included herein are based on current expectations that involve a number of risks and uncertainties. These forward-looking statements are based on assumptions regarding the Company's business and technology, which involve judgments with respect to, among other things, future scientific, economic and competitive conditions, and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the Company's control. Although the Company believes that the assumptions underlying the forward-looking statements are reasonable, actual results may differ materially from those set forth in the forward-looking statements. In light of the significant uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by the Company or any other person that the Company's objectives or plans will be achieved.

Factors that could cause or contribute to such differences include, but are not limited to, regulatory policies or changes thereto, available cash, research and development results, competition from other similar businesses, and market and general economic factors. This discussion should be read in conjunction with the condensed consolidated financial statements (unaudited) and notes thereto included in Item 1 of the Company's current Quarterly Report on Form 10-Q as of and for the periods ending June 30, 2017 and the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, including the section entitled "Item 1A. Risk Factors." The Company does not intend to update or revise any forward-looking statements to reflect new information, future events or otherwise.

Company Contact:

Jeff Margolis
Chief Financial Officer, Senior Vice-President, Treasurer and Secretary
Telephone: (917) 834-7206
E-mail: jmargolis@respirerx.com