

---

---

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

**FORM 8-K**

Current Report

Pursuant to Section 13 or 15(d) of  
the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): January 6, 2017

**RESPIRERX PHARMACEUTICALS INC.**

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction  
of incorporation)

1-16467  
(Commission  
File Number)

33-0303583  
(I.R.S Employer  
Identification No.)

126 Valley Road, Suite C  
Glen Rock, New Jersey  
(Address of principal executive offices)

07452  
(Zip Code)

Registrant's telephone number, including area code: (201) 444-4947

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
- 
-

**Item 7.01 Regulation FD Disclosure**

On January 6, 2017, RespireRx Pharmaceuticals Inc. (the “Company”) announced that the Company’s President and Chief Executive Officer, James S. Manuso, Ph.D., will be presenting at The Biotech Showcase <sup>TM</sup> 2017 at the Hilton San Francisco Union Square Hotel, San Francisco, California. Dr. Manuso is scheduled to present at 2:30 p.m. Pacific Standard Time on Monday, January 9, 2017.

The slide presentation that the Company will be using at the conference is attached as Exhibit 99.1 and is being furnished and not filed pursuant to Item 7.01 of Form 8-K. The presentation will be available by live webcast that can be accessed by clicking on the investors tab on the Company’s web-site (www.respirerx.com), clicking on the investors tab and following the links and instructions or by going to:

<https://event.webcasts.com/starthere.jsp?ei=1130905>

The press release announcing the Company’s participation in the conference is attached as Exhibit 99.2.

**Item 9.01 Financial Statements and Exhibits**

(d) Exhibits.

A list of exhibits that are furnished and filed as part of this report is set forth in the Exhibit Index, which is presented elsewhere in this document, and is incorporated herein by reference.

---

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 hereunto duly authorized.

Date: January 6, 2017

RESPIRERX PHARMACEUTICALS INC

By: /s/ Jeff E. Margolis

Jeff E. Margolis

Vice President, Treasurer and Secretary

---

## EXHIBIT INDEX

Exhibit Number	Exhibit Description
99.1	Slide Presentation*
99.2	Press Release dated January 6, 2017*

\* Furnished herewith.

---



**James S. Manuso, Ph.D., President & CEO**

Biotech Showcase  
San Francisco, January 9, 2017  
Medicines for Respiratory Diseases

## Forward Looking Statements



The matters discussed in this presentation that are not historical facts are "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 we intend that such forward-looking statements be subject to the safe harbor created thereby. Forward-looking statements include, but are not limited to, statements containing the words "believes," "anticipates," "intends," "estimates," "plans," "expects," "projects" and words of similar import. Readers are cautioned not to place undue reliance on these forward-looking statements, which are based on the information available to management at this time and which speak only as of the date of this presentation. The Company undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements of the Company or its industry to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. All forward-looking statements should be evaluated with the understanding of their inherent uncertainty and in the context of the Company's filings with the Securities and Exchange Commission, including the risk factors contained therein. While the Company believes the information contained herein is reliable, the Company makes no representations or warranties regarding the accuracy or completeness of this information.

"Breath is the universal factor of life. We are born the first time we inspire, and we die the last time we expire. Breath is life itself. In Sanskrit the same word means both breath and life."

.....Abbot George Burke

- Cannabinoids – Dronabinol - Phase 3 ready for Obstructive Sleep Apnea (OSA)
- Ampakines – CX1739 & CX717 – 4 successful Phase 2A proof of concept trials for Central Sleep Apnea (CSA) and opioid induced respiratory depression (RD)
- Addressing blockbuster markets with unmet clinical needs
- Multiple opportunities for strategic collaborations
- Publicly traded company (OTC QB:RSPI)
- Experienced and accomplished management team



# **Sleep Apnea**

## **A National Health Epidemic**



**Over 35 Million Americans Stop Breathing Every Night**

**From 5 – 50 Times Per Hour**

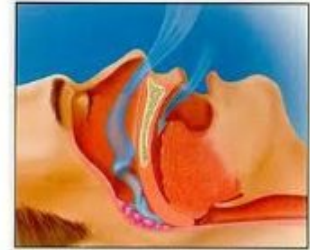
**This Is Not Merely Snoring**

## ***DEFINITIONS***

- **Apnea** – Cessation of breathing for  $\geq 10$  seconds
- **Hypopnea** - Abnormal severe slowing of breathing for  $\geq 10$  seconds
- **Apnea - Hypopnea Index (AHI)** - used to indicate the severity of sleep apnea. AHI is the average number of apnea-hypopnea events per hour during sleep.
- **Severity of Sleep Apnea**
  - Normal: AHI  $< 5$  incidents per hour
  - Mild:  $5 \leq \text{AHI} < 15$  incidents per hour
  - Moderate:  $15 \leq \text{AHI} < 30$  incidents per hour
  - Severe: AHI  $\geq 30$  incidents per hour

# Three Types of Sleep Apnea

- **Obstructive** - a peripheral phenomenon that occurs when throat muscles intermittently relax and block airway during sleep. OSA may be accompanied by snoring
- **Central** - a brain-mediated phenomenon that occurs when breathing control centers in the brain reduce activity. Frequently caused by opioid consumption
- **Mixed** - a combination of Obstructive and Central



During sleep apnea, air flow is completely blocked.



- Dronabinol for Obstructive Sleep Apnea
- Ampakines to address:

Post-surgical Central Sleep Apnea

Chronic Central Sleep Apnea

Spinal Cord Injury Related Apnea

# Respiratory Diseases Product Pipeline

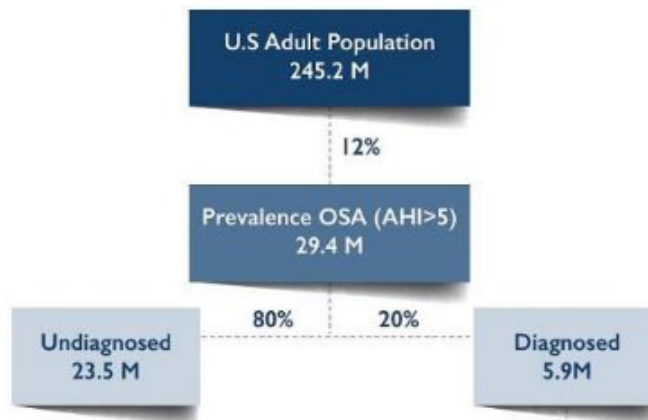


Compound	Indication	Preclinical	Phase 1	Phase 2
Dronabinol	Obstructive Sleep Apnea			
CX1739	Chronic CSA			
	Post-surgical CSA			
CX717	Opioid-induced RD			
	Spinal Cord Injury			
CX1942	Drug-induced RD (injectable)			

# **Dronabinol: Breakthrough Treatment for Obstructive Sleep Apnea**



# Obstructive Sleep Apnea: Epidemiology



Source: Primary research with experts, U.S. Census (2014), Peppard "Increased Prevalence of Sleep-disordered Breathing in Adults." American Journal of Epidemiology (2013)

© American Academy of Sleep Medicine 2016



# OSA - Scope of the Problem in the US

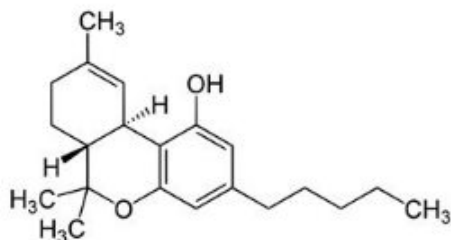


Disease State	Estimated US Prevalence	Annual Estimated Cost to Society	Annual Indicated Drug Therapy Expenditures
OSA <sup>1-5</sup>	29.4 Million	\$162.0 Billion	\$ 0
Asthma <sup>6,7</sup>	16.4 Million	\$18.3 Billion	\$13.5 Billion
Hypertension <sup>8-10</sup>	43.2 Million	\$73.4 Billion	\$48.5 Billion
Diabetes <sup>11,12</sup>	23.5 Million	\$174 Billion	\$20.6 Billion

1 Obstructive sleep apnea and sleep. National Sleep Foundation Web site.  
2 Manufacturer Recommendations  
3 Qualitative Market Research, Physician / Patient interviews, 2010  
4 CPAP Supply USA  
5 American Sleep Apnea Association, 2010  
6 Asthma & Allergy Foundation of America

7 Espicom Business Intelligence's New Drug Futures, 2006  
8 Burt, V., et al., Hypertension, 2005  
9 Lloyd-Jones, D., et al., Circulation 119(3):e21-181, 2009  
10 AcriteMarket Intelligence, 2006  
11 Arrowhead, Global Diabetes Market, 2006  
12 American Diabetes Assoc., 2007

# Dronabinol: A Breakthrough Treatment for OSA



- Dronabinol is Δ<sup>9</sup>-THC
- Oral, small molecule
- Cannabinoid receptor agonist
- Reduces apnea by acting on spinal ganglia controlling muscle tone in throat
- Positive Phase 2A and 2B clinical trials in OSA

- **Dronabinol Background**

- FDA approved for the treatment of anorexia in AIDS patients and nausea and vomiting in cancer patients undergoing chemotherapy (Marinol®)
- Schedule III drug available by prescription, with a low risk of addiction

- **Intellectual Property**

- Exclusive worldwide license from the University of Illinois
- Issued US patent for the use of dronabinol in the treatment of OSA (expires 2025)
- Pending patents on modified release formulations

- **NIH Support**

- >\$5MM NIH-funded grant PACE Phase 2B trial in OSA

## Current Approved Treatments

1. CPAP device
2. Surgery
3. Dental devices
4. Exercises
5. Stimulants for next day sleepiness

### **CPAP is the Standard Treatment for OSA**

- 30% of patients prescribed CPAP never initiate treatment
- Over 50% of patients stop using CPAP in the first year of use; may only wear 3-4h/night



- Six week, double-blind, placebo controlled clinical study in patients with OSA
- Doses: Placebo, 2.5 mg and 10 mg at night
- Conducted by University of Illinois at Chicago and Northwestern University
- Fully funded by NIH - >\$5 million

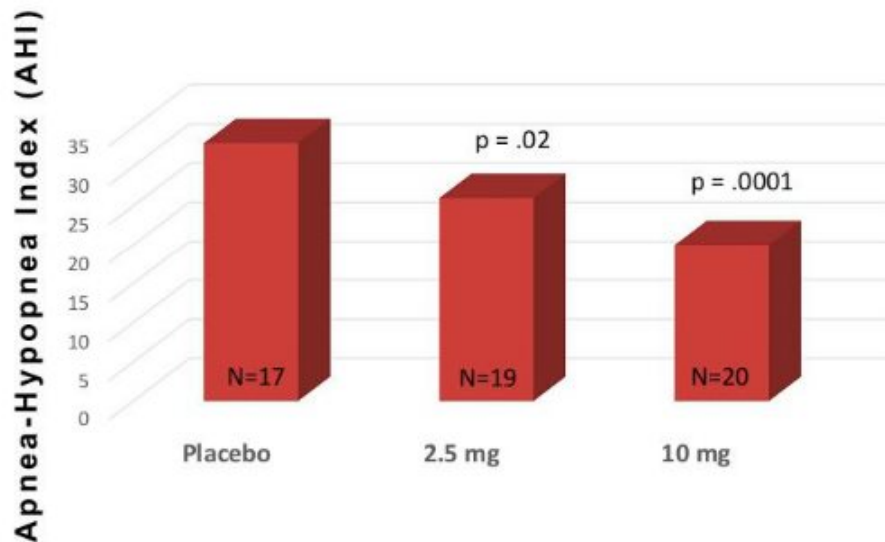
- **56 evaluable patients completed study**
  - Placebo, n = 17
  - 2.5 mg dronabinol, n = 19
  - 10 mg dronabinol, n = 20
- **Results revealed a statistically significant improvement in Primary Outcome Measures:**
  - Apnea-Hypopnea Index (AHI) (2.5 and 10 mg)<sup>1</sup>
  - ESS Sleepiness Scale (10 mg)<sup>2</sup>
  - Overall Patient Satisfaction (10 mg)<sup>3</sup>

<sup>1</sup> p<.02 and p<.001, respectively, compared to placebo

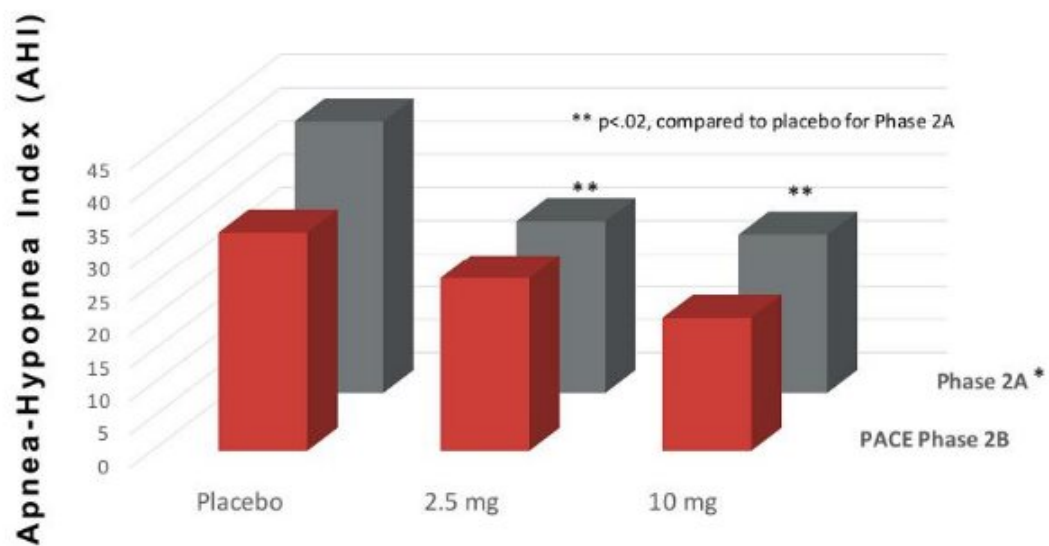
<sup>2</sup> p<.0001, compared to placebo

<sup>3</sup> p<.02, compared to placebo

## PACE Phase 2 Clinical Trial: OSA After 6 Weeks of Dronabinol Treatment



## PACE Phase 2B Trial Compared to Phase 2A



\* Double blind, placebo controlled dose-ascending study in patients with OSA, n=19

- Meet with FDA during mid-2017
- Finalize the Phase 3 trial plan required for approval
- Agree on a Special Protocol Assessment (“SPA”)
- Seek breakthrough and fast track designation
- Accelerate the development path



## Protecting Dronabinol in the Market



- Method-of-Use patent for dronabinol in OSA - Expires in 2025
- Schedule III drug: off-label use monitored by US government, discouraging generic manufacturers from selling off-label
- Off-label use of generics and medical marijuana are not covered by insurers
- Market pricing and manufacturing protection

# The Dronabinol Opportunity



Impact on Patient	Commercial Opportunity
First medicine available for OSA	Changes the nature of OSA treatment
Ease of Use/Better Patient Compliance	Broadly expands prescriber base from sleep specialists to include primary care physicians and cardiologists
Low cost	Recurring lifetime sales versus one time sale or ongoing rental of a device
Safe and effective	Market will expand into the currently undiagnosed/untreated population
Potential for better cardiovascular outcomes	Potential for reducing systemic healthcare costs by reduced cardiac re-hospitalizations

### **If FDA approves dronabinol for the treatment of OSA:**

- Initial target market: Mild to moderate OSA patients who are diagnosed but do not use CPAP
- 1,770,000 adults (i.e., 30% of 5.9 million diagnosed adults).
- Daily price per pill is \$5.00
- Patient compliance – assume patients take the pill only 50% of the time (i.e., 183 days per year)
- Gross Sales = \$1.6 billion

# Ampakines for Opioid Induced Apneas

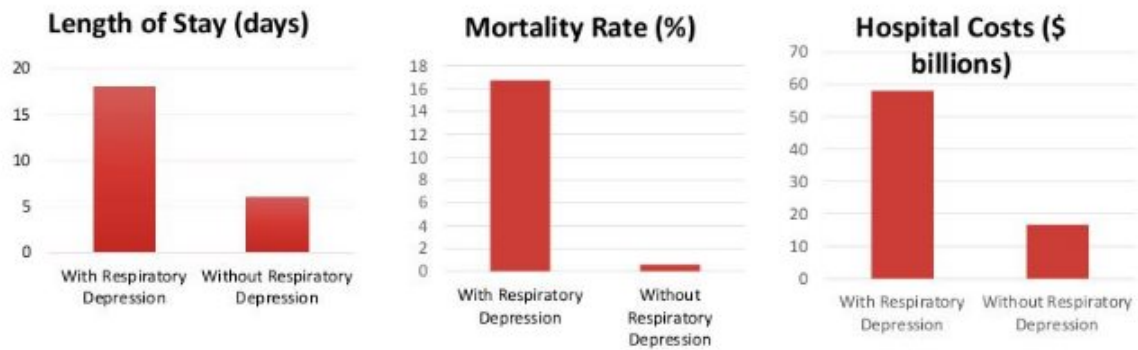


- Opioid Epidemic
  - U.S. pharmacies annually dispense 245 million Rx for opioid pain relievers
  - 10 - 11 million patients in the US on chronic opioid therapy for pain
- Opioid induced respiratory depression is manifested as CSA
- >50% of Chronic Opioid Users Have CSA (~6 million Patients)<sup>1</sup>
- CSA is a primary risk factor for opioid overdose<sup>2</sup>

<sup>1</sup> Rose AR, Catcheside PG, McEvoy RD, Paul D, Kapur D, Peak E, Vakulin A, Antic NA. J Clin Sleep Med 2014;10(8):847-852

<sup>2</sup> Nora D. Volkow, M.D., and A. Thomas McLellan, Ph.D, National Institute of Drug Abuse, N Engl J Med 2016;374:1253-63.

## Post-surgical Central Sleep Apnea: Outcomes



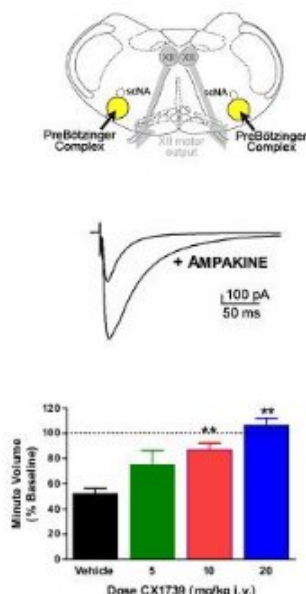
- 4 – 8% of in-patient surgical patients in U.S. experience respiratory depression
- Both clinical and financial outcomes are worse when respiratory depression occurs following surgery
- Large unmet clinical and pharmaco-economic needs

## Current CSA Treatments

- No medicine or device is approved for CSA
- CPAP is contra-indicated

## Ampakines for CSA

- Post-surgical CSA produced by opioid pain management  
Short term use (<1 week)
- CSA caused by opioid use in patients with chronic pain  
Chronic use - longer term project  
Potential for proprietary opioid combination formulation



- Brain stem nuclei that regulate breathing contain opiate and AMPA glutamate receptors that inhibit and excite cell activity, respectively
- Ampakines act as positive, allosteric modulators of the AMPA-type glutamate receptor to enhance excitation and prolong and strengthen synaptic transmission
- In animal models, ampakines antagonize opioid-induced respiratory depression

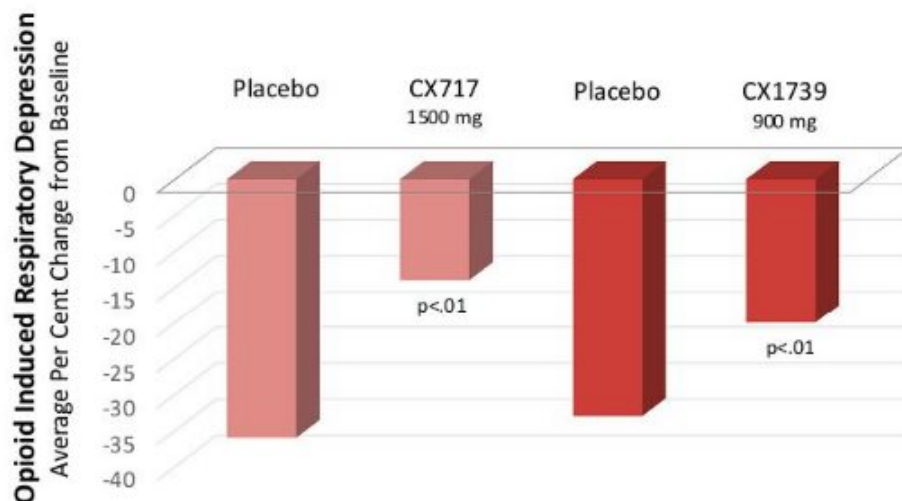


## Development Status of the Ampakines



- **CX1739**
  - Successfully completed four Phase 1 Safety Trials
  - Successfully completed Phase 2A Trial in opioid-induced respiratory depression
  - Successfully completed Phase 2A Trial in CSA
- **CX717**
  - Successfully completed multiple Phase 1 Safety Trials
  - Successfully completed two Phase 2A Trials in opioid-induced respiratory depression
  - Improved breathing in animal models of spinal injury and Pompe Disease
- **CX1942**
  - Soluble compound for intravenous use
  - Antagonized opioid induced respiratory depression in preclinical studies

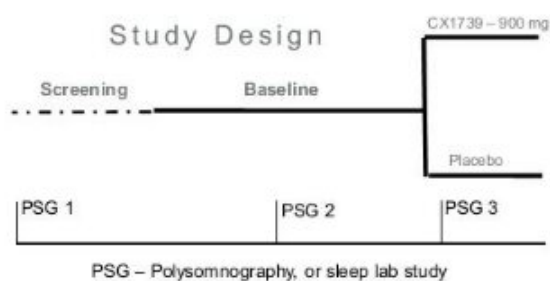
## Ampakines Reduce Opioid Induced Respiratory Depression in Phase 2A Clinical Trials



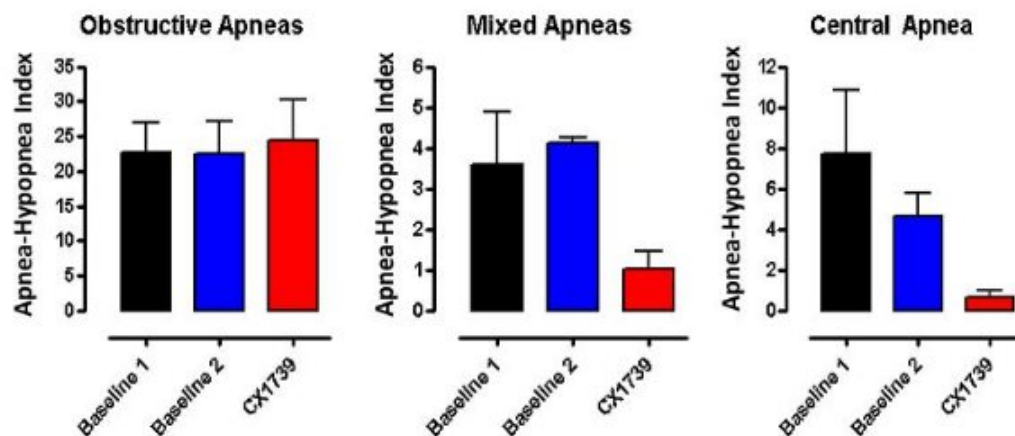
Ampakines reduce opioid induced respiratory depression without altering analgesia

## CX1739: Phase 2A Trial in Central Sleep Apnea Single Dose Proof of Concept

Design	Randomized, double-blind, placebo-controlled study
Population	20 adults with all types of moderate to severe sleep apnea (16 given CX1739; 4 given Placebo)
Dosing	Each subject received either placebo or a <u>single</u> dose of 900mg CX1739 one hour before lights out
Primary Measures	Apnea-Hypopnea measures; Oxygen saturation; Sleep quality, measured by PSG (Apnea: no airflow for >10s; Hypopnea: reduced airflow for >10s)



## CX1739 Reduces Apnea-Hypopnea Index in Patients With Mixed and Central Sleep Apneas



- **Targeted Indications**
  - Post-surgical, opioid-induced CSA
  - Chronic CSA
  - Spinal cord injury
  - Combination formulation with an opioid for treatment of chronic pain
- **Intellectual Property Protection (owned and licensed)**
  - Issued Composition-of-Matter Patent (expires 2028), filed worldwide
  - Method-of-use patent (expires 2030)

# Summary



# Respiratory Diseases Product Pipeline



Compound	Indication	Preclinical	Phase 1	Phase 2
Dronabinol	Obstructive Sleep Apnea			
CX1739	Central Sleep Apnea			
	Post-surgical Apnea			
CX717	Opioid-induced RD			
	Spinal Cord Injury			
CX1942	Drug-induced RD (injectable)			

## Ongoing Development

**Dronabinol - OSA** - Preparing for FDA meeting to request:

- Special Protocol Assessment ("SPA") to finalize the Phase 3 program
- Fast Track Designation
- Breakthrough Designation

**Ampakines** – Preparing three IND submissions for:

- Post-surgical Sleep Apnea – in-hospital pain management
- CSA - Patients taking chronic opioids
- Spinal Cord Injury Related Apnea



# Development Milestones



	1Q2017	2Q2017	3Q2017	4Q2017	1Q2018	2Q2018
<b>Dronabinol</b>						
FDA Regulatory - Prepare and submit SPA						
Pivotal Clinical Trial			Total duration 18 - 24 months			
Proprietary Extended Release Formulation Development						
<b>CX1739</b>						
FDA Regulatory - Prepare and submit IND						
Central Sleep Apnea Clinical Trial in Post-surgical Patients						
Central Sleep Apnea Clinical Trial in Chronic Opioid Patients						
<b>CX717</b>						
FDA Regulatory - Prepare and submit IND						
Spinal Cord Injury Clinical Trial						
<b>Ampakine plus Opioid Combination Formulation</b>						
Formulation Design						
Phase 1 Clinical Trials for Safety and Pharmacokinetics						

## Capital Structure (rounded) and Market Metrics – UPDATED)



	<b>Pro Forma at December 31, 2016</b>
Common Stock (includes 130,000 shares issued on Dec 29 and 30, 2016)	2,149,000
Common Stock Equivalents of Convertible Notes	29,000
Common Stock Equivalents of all Options and Warrants Granted (includes 130,000 warrants issued on Dec 29 and 30, 2016; excludes 355,000 shares reserved for equity plans)	1,864,000
<b>Total</b>	<b>4,042,000</b>
	<b>Market Metrics at December 31, 2016</b>
Closing price as of December 30, 2016 (Friday)	\$2.80
Fully diluted market capitalization as of December 31, 2016 (rounded)	\$11,300,000

# Management and Directors



James Manuso	President, CEO & Vice Chairman
Arnold Lippa	CSO & Executive Chairman
Jeff Margolis	VP, Secretary/Treasurer, Director
Robert Weingarten	CFO, Director
Richard Purcell	Senior VP, R&D
Katie MacFarlane	Director Senior VP, Napo Pharmaceuticals
James Sapirstein	Director CEO, ContraVir Pharmaceuticals
John Greer	Chairman, Scientific Advisory Board Prof & Dir. Neuroscience Ctr., U. Alberta

- Cannabinoids – Dronabinol - Phase 3 ready for Obstructive Sleep Apnea (OSA)
- Ampakines – CX1739 & CX717 – 4 successful Phase 2A proof of concept trials for Central Sleep Apnea (CSA) and opioid induced respiratory depression (RD)
- Addressing blockbuster markets with unmet clinical needs
- Multiple opportunities for strategic collaborations
- Publicly traded company (OTC QB:RSPI)
- Experienced and accomplished management team



**RespireRx**  
Pharmaceuticals Inc

OTC QB: RSPI

**James S. Manuso, Ph.D., President & CEO**

Biotech Showcase

San Francisco, January 9, 2017

Medicines for Respiratory Diseases

---

## **RespireRx Pharmaceuticals Inc. to Present at 9<sup>th</sup> Annual Biotech Showcase™ 2017**

### **CEO to Review Completed Phase 2B Dronabinol Clinical Trial for the Treatment of Obstructive Sleep Apnea and Provide Pipeline Update**

Glen Rock, N.J., Jan. 6, 2017/Globe Newswire – RespireRx Pharmaceuticals Inc. (OTCQB: RSPI) (“RespireRx” or the “Company”), a leader in the development of medicines for the treatment of respiratory disorders, particularly sleep apneas and drug-induced respiratory depression for which there are no approved pharmaceuticals, announces that the Company’s President, Chief Executive Officer and Vice Chairman of the Board of Directors, James S. Manuso, Ph.D., will present at the Biotech Showcase™ 2017 on Monday, January 9, 2017 at 2:30 P.M. Pacific Standard Time, Room 7, Ballroom Level. The Biotech Showcase is co-sponsored by the EBD Group and Demy-Colton Life Sciences Advisors. Presentations will be held at the Hilton San Francisco Union Square Hotel in San Francisco, California from January 9 – 11, 2017.

Dr. Manuso will present the positive results from the recently completed Phase 2B “PACE” clinical trial of dronabinol in the treatment of obstructive sleep apnea (“OSA”). He will provide an overview of the clinical trial data, and will outline the Company’s plans to meet with the U.S. Food and Drug Administration (“FDA”) in mid-year 2017 for an end of Phase 2 meeting at which the Company plans to obtain guidance for a Phase 3 clinical protocol that will enable the Company to bring dronabinol to market for the treatment of OSA. The Company will request a Special Protocol Assessment to clearly define a path to approval of a new drug application (“NDA”) by the FDA, and will seek fast-track and breakthrough designations for dronabinol in the treatment of OSA.

Dr. Manuso also will discuss the successful results from the Phase 2A clinical trial of CX1739 in the prevention of opioid-induced respiratory depression. Based on these results, RespireRx plans to conduct a Phase 2 study of CX1739 for the treatment of opioid-induced central sleep apnea (“CSA”) in a controlled post-surgical setting where opioids are used for pain management. In addition, based on promising preclinical studies, the Company plans to re-commence the clinical development program for CX717 in the treatment of respiratory distress associated with spinal cord injury, an orphan indication.

Dr. Manuso’s presentation will be available by live webcast streaming online. To access the live webcast, go to <https://event.webcasts.com/starthere.jsp?ei=1130905> (where it will also be archived for three months) or go to the Company’s website at [www.respirerx.com](http://www.respirerx.com), click on the investors tab and follow the link and instructions. A copy of the slide presentation to be presented at the Biotech Showcase 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.

#### **Comments by the Company’s President and Chief Executive Officer**

Dr. James S. Manuso commented, “We look forward to advancing the many initiatives RespireRx has in the pipeline throughout the course of 2017. Now that the Company is planning the Phase 3 clinical and regulatory development of dronabinol for the treatment of OSA, we are considering various potential commercialization and partnering opportunities. With dronabinol’s Phase 3 clinical trial on the horizon, along with the ampakines in Phase 2 clinical development, there are numerous strategic and operational milestones on the calendar. We will continue to focus on the clinical and regulatory development of the Company’s two proprietary platforms for addressing unmet needs in the markets for sleep apnea, opioid-induced respiratory depression and other forms of respiratory distress. In addition, we will continue to support the scientific research and pre-clinical development upon which our company is based. I look forward to reporting to you our progress in the months ahead.”

---

## 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 owns patents and patent applications, and holds exclusive licenses for certain families of chemical compounds, that claim the chemical structures and their use in the treatment of these and other disorders.

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 claiming the use of cannabinoids for the treatment of sleep-related breathing disorders. As reported in a press release and in a Current Report on Form 8-K on December 23, 2016, RespireRx announced positive results of the PACE (Pharmacotherapy of Apnea by Cannabimimetic Enhancement) clinical trial conducted by Dr. David Carley and colleagues at the University of Illinois at Chicago and Northwestern University. The PACE clinical trial, a Phase 2B double-blind, placebo controlled clinical study of 2.5mg and 10mg doses of dronabinol for the treatment of OSA, clearly demonstrated that dronabinol significantly improved the primary outcome measures of the 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"). This clinical study was fully funded by the National Heart, Lung and Blood Institute of the National Institutes of Health. The Company did not manage or fund this clinical trial. In an earlier double-blind, placebo-controlled, dose-ascending Phase 2A clinical study conducted by the Company, dronabinol produced a statistically significant reduction in the AHI, the primary therapeutic end-point, and was observed to be safe and well-tolerated in a group of patients with OSA.

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 in both oral and injectable form are being developed by the Company for the treatment of a variety of breathing disorders. In a recently completed Phase 2A clinical trial, orally administered CX1739 antagonized the respiratory depression produced by remifentanyl, a potent opioid, without altering its analgesic effects. In an additional Phase 2A clinical trial, single dose administration of CX1739 demonstrated preliminary efficacy in reducing CSA. In published studies, ampakines have improved disordered breathing in animal models of orphan disorders such as spinal cord damage, Pompe Disease and perinatal respiratory distress.

Additional information about the Company and the matters discussed herein can be obtained on the Company's web-site at [www.respirerx.com](http://www.respirerx.com) or in the Company's filings with the U.S. Securities and Exchange Commission at [www.sec.gov](http://www.sec.gov).

---

### **Special Note Regarding Forward-Looking Statements**

:

*This news 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. 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 news release should be read in conjunction with the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2015, including the section entitled “Item 1A. Risk Factors,” as well as the Company’s Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2016. 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  
Vice-President, Treasurer and Secretary  
Telephone: (917) 834-7206  
E-mail: [jmargolis@respirerx.com](mailto:jmargolis@respirerx.com)

---