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**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): September 1, 2016

**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))
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**Item 5.03. Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.**

On September 1, 2016, RespireRx Pharmaceuticals Inc. (the “Company”) filed with the Secretary of State of the State of Delaware a Certificate of Amendment, in the form of Exhibit 3.1 attached hereto (the “Certificate of Amendment”), amending its Certificate of Incorporation to effect a one-for-three hundred twenty-five reverse stock split of its issued and outstanding shares of common stock, par value \$0.001 per share (the “Reverse Stock Split”). The Certificate of Amendment became effective on September 1, 2016.

The Certificate of Amendment also set the total number of authorized shares that the Company may issue at 70,000,000 consisting of 65,000,000 shares of Common Stock, \$0.001 par value per share, and 5,000,000 shares of Preferred Stock, \$0.001 par value per share.

The foregoing amendment was adopted at the Company’s Special Meeting of stockholders held on August 16, 2016 by the holders of approximately 513.9 million shares of the Company’s common stock, or approximately 78.3% of the issued and outstanding shares as of July 5, 2016, the record date established for the Special Meeting, as was previously reported by the Company in a Current Report on Form 8-K filed August 22, 2016. The approval by the stockholders left the Board of Directors of the Company discretion as to the date upon which to file the amendment.

**Item 8.01. Other Events.**

On September 1, 2016, the Company issued a press release announcing that the Company had filed the amendment to its Certificate of Incorporation, as amended, that had been approved by the stockholders at the Special Meeting of stockholders held on August 16, 2016, to effect the Reverse Stock Split and to set the authorized shares of the Company at 70,000,000, consisting of 65,000,000 shares of Common Stock, \$0.001 par value per share, and 5,000,000 shares of Preferred Stock, \$0.001 par value per share.

A copy of the press release is furnished herewith as Exhibit 99.1 to this current report.

**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.

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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: September 1, 2016

RESPIRERX PHARMACEUTICALS INC.

By: /s/ James S. Manuso

James S. Manuso President and Chief Executive Officer

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## EXHIBIT INDEX

<b>Exhibit Number</b>	<b>Exhibit Description</b>
3.1	Third Certificate of Amendment of Second Restated Certificate of Incorporation of RespireRx Pharmaceuticals Inc.
99.1	Press Release dated September 1, 2016*

\* Furnished herewith.

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**Third Certificate of Amendment  
of  
Second Restated Certificate of Incorporation  
of  
RespireRx Pharmaceuticals Inc.**

RespireRx Pharmaceuticals Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware (the "DGCL"), hereby adopts this Third Certificate of Amendment (this "Certificate of Amendment"), which amends its Second Restated Certificate of Incorporation (as amended by the Certificate of Designation filed March 14, 2014 and the Certificate of Amendment filed April 17, 2014 and the Second Certificate of Amendment filed December 16, 2015, the "Certificate of Incorporation"), as described below, and does hereby further certify that:

1. The Board of Directors of the Corporation duly adopted a resolution proposing and declaring advisable the amendment to the Certificate of Incorporation described herein, and the Corporation's stockholders duly adopted such amendment, all in accordance with the provisions of Section 242 of the DGCL.

2. Article Fourth of the Certificate of Incorporation is hereby amended by (i) amending and restating the first paragraph of such article in its entirety as follows:

FOURTH: (A)(1) - AUTHORIZED CAPITAL. The total number of shares of capital stock which the Corporation has the authority to issue is 70,000,000 consisting of 65,000,000 shares of Common Stock, \$0.001 par value per share (the "Common Stock"), and 5,000,000 shares of Preferred Stock, \$0.001 par value per share (the "Preferred Stock").

(ii) adding the following paragraph to succeed the first paragraph of such article and to precede the current second paragraph of such article:

(2) Effective as of the close of business, Eastern Time, on the date of filing of this Certificate of Amendment with the Secretary of State of the State of Delaware (the "Effective Time"), each three hundred twenty five (325) outstanding shares of the Corporation's Common Stock, par value \$0.001 per share, shall automatically and without any action on the part of the respective holders thereof be exchanged and combined into one (1) share of Common Stock, par value \$0.001 per share. No fractional shares shall be issued in connection with the exchange. Any fractional shares resulting from the reverse stock split will not be issued but will be paid out in cash (without interest or deduction) in an amount equal to the number of shares exchanged into such fractional share multiplied by the average closing trading price of our common stock on the OTCQB for the five trading days immediately before the Effective Time."

and (iii), changing the paragraph number at the beginning of the subsequent paragraph from "(2)" to "(3)".

3. All other provisions of the Certificate of Incorporation shall remain in full force and effect.

By: /s/ Jeff Margolis

Name: Jeff Margolis

Title: Vice President, Treasurer and Secretary



**RespireRx Pharmaceuticals Inc.  
Announces 1-for-325 Reverse Stock Split**

Glen Rock, N.J., September 1, 2016/Globe Newswire – RespireRx Pharmaceuticals Inc. (OTCQB: RSPI) (“RespireRx” or the “Company”), a leader in the development of medicines for respiratory disorders, including sleep apneas and drug-induced respiratory depression, today announced that the Company is effecting the one-for-three-hundred-twenty-five reverse stock split of the Company’s issued and outstanding common stock (the “Reverse Split”) that was approved by the Company’s stockholders at the Special Meeting of Stockholders held on August 16, 2016. The Reverse Split was previously disclosed in the proxy materials distributed to the Company’s stockholders in connection with the August 16, 2016 Special Meeting held to authorize, among other things, the Reverse Split. The Reverse Split will be effective as of the close of business on September 1, 2016 and trading of the Company’s common stock on a split-adjusted basis, under the new CUSIP number of 761227 206, will begin at the opening of trading on September 2, 2016. The Company’s shares of common stock will continue to trade on the OTCQB under the symbol “RSPI” with the letter “d” added to the end of the trading symbol for a period of 20 days to indicate the Reverse Split has occurred.

As a result of the Reverse Split, every three hundred twenty-five shares of the Company’s common stock that a stockholder owns will be automatically converted into one share of the Company’s common stock, thus reducing the number of outstanding shares of the Company’s common stock from approximately 656.2 million to approximately 2.0 million as of the close of business on September 1, 2016, the effective date of the Reverse Split. Stockholders will receive cash in lieu of fractional shares created as a result of the Reverse Split.

The Company has retained American Stock Transfer & Trust Company, LLC (“AST”), its transfer agent, to act as exchange agent for the Reverse Split. AST will manage the exchange of pre-split shares for post-split shares. As soon as practicable, AST will provide stockholders of record as of the effective time of the Reverse Split with a letter of transmittal providing instructions for the exchange of their certificates representing pre-split shares of common stock for new certificates of post-split shares of common stock. Stockholders who hold their shares in “street name” will be contacted by the applicable bank, broker or other nominee with any relevant instructions.

In addition to the Reverse Split, the amendment to the Company’s Certificate of Incorporation approved by the stockholders at the August 16, 2016 Special Meeting also authorized changing the number of authorized shares of the Company from 1,405,000,000, of which 1,400,000,000 were designated as common stock and 5,000,000 were designated as preferred stock, to 70,000,000, of which 65,000,000 will be designated as common stock and 5,000,000 will be designated as preferred stock.

**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 holds exclusive licenses and owns patents and patent applications for certain families of chemical compounds that claim the chemical structures and their uses in the treatment of a variety of disorders, as well as claims for novel uses of known drugs.

RespireRx Pharmaceuticals Inc., 126 Valley Road, Suite C, Glen Rock, NJ 07452  
[www.RespireRx.com](http://www.RespireRx.com)

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RespireRx has a pipeline of compounds in Phase 2 clinical development focused on pharmaceutical treatments for a variety of different breathing disorders. Clinical development in the area of respiratory disorders, particularly drug-induced respiratory depression and sleep apnea, has created opportunities for the development and commercialization of the Company's compounds.

**Ampakines.** One platform of medicines being developed by RespireRx is a class of proprietary compounds known as ampakines, which act to enhance the actions of the excitatory neurotransmitter glutamate at AMPA glutamate receptors. Several ampakines, in both oral and injectable form, are being developed by the Company for the treatment of a variety of breathing disorders. In clinical studies, select ampakines have shown preliminary efficacy in central sleep apnea and in the control of respiratory depression produced by opioids, without altering the opioid analgesic effects. In animal models of orphan disorders, such as Pompe Disease, spinal cord damage and perinatal respiratory distress, it has been demonstrated that certain ampakines improve breathing function. The Company's compounds belong to a new class that does not display the undesirable side effects previously reported for other ampakines.

During March 2016, a Phase 2A clinical trial at Duke University School of Medicine was initiated with the Company's proprietary ampakine, CX1739, to determine the ability of orally administered CX1739 to prevent the respiratory depression produced by remifentanyl, a potent opioid, without altering remifentanyl's analgesic properties. The dosing portion of the clinical trial was completed in June 2016 and the clinical trial was formally completed on July 11, 2016. The Company is currently working with the Duke University clinical research team to analyze the data collected. The Company expects to complete a preliminary top-line analysis of the respiratory data by the end of September 2016 and to issue a final report on the results of the clinical trial by the end of December 2016.

**Cannabinoids.** The other platform is the class of compounds known as cannabinoids, including, 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. In a double-blind, placebo-controlled, dose-ascending Phase 2A clinical study conducted by the Company, 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"). The University of Illinois and three other centers conducted a six week, double-blind, placebo-controlled Phase 2B clinical trial investigating the effects of dronabinol in patients with OSA. The University of Illinois has indicated that this clinical trial was completed in August 2016. Final research results are expected to be made available in the fourth quarter of 2016. The Company is not managing or funding this clinical trial, which was fully funded by the National Heart, Lung and Blood Institute of the National Institutes of Health.

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[www.RespireRx.com](http://www.RespireRx.com)

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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).

#### **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 we intend 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 our 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 our 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 our control. Although we believe 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 us or any other person that our 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 press release should be read in conjunction with the condensed consolidated financial statements (unaudited) and notes thereto included in Item 1 of the Company's recently filed Quarterly Report on Form 10-Q and 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." The Company does not intend to update or revise any forward-looking statements to reflect new information, future events or otherwise.*

#### **Company Contact:**

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