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

FORM 10-Q

[X] QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended March 31, 2017

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number: 1-16467

RESPIRERX PHARMACEUTICALS INC.

(Exact name of registrant as specified in its charter)

Delaware	**33-0303583**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

126 Valley Road, Suite C
Glen Rock, New Jersey 07452
(Address of principal executive offices)

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

Not applicable
(Former name, former address and former fiscal year, if changed since last report)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes [X] No [ ]

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes [X] No [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer [ ]	Accelerated filer [ ]
Non-accelerated filer [ ] (Do not check if a smaller reporting company)	Smaller reporting company [X]
	Emerging growth company [ ]

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes [ ] No [X]

As of May 17, 2017, the Company had 2,289,045 shares of common stock, $0.001 par value, issued and outstanding.

RESPIRERX PHARMACEUTICALS INC.
ND SUBSIDIARY

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Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q of RespireRx Pharmaceuticals Inc. (the "Company") 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 this Quarterly Report on Form 10-Q 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.

PART I - FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2017 (unaudited)	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 220,949	$ 92,040
Advance payment on research contract	48,912	48,912
Prepaid expenses, including current portion of long-term prepaid insurance of $14,945 at March 31, 2017 and December 31, 2016	108,729	54,724
Total current assets	378,590	195,676
Equipment, net of accumulated depreciation of $17,437 and $15,730 at March 31, 2017 and December 31, 2016, respectively	3,461	5,167
Long-term prepaid insurance, net of current portion of $14,945 at March 31, 2017 and December 31, 2016	29,268	33,004
Total assets	$ 411,319	$ 233,847
LIABILITIES AND STOCKHOLDERS' DEFICIENCY		
Current liabilities:		
Accounts payable and accrued expenses, including $217,722 and $194,066 payable to related parties at March 31, 2017 and December 31, 2016, respectively	$ 2,704,885	$ 2,494,729
Accrued compensation and related expenses	2,225,783	1,944,559
Convertible notes payable, currently due and payable on demand, including accrued interest of $71,970 and $62,616 at March 31, 2017 and December 31, 2016, respectively (of which $77,529, including accrued interest of $16,529, was deemed to be in default at March 31, 2017 and $75,038, including accrued interest of $14,038, was deemed to be in default at December 31, 2016) (Note 5)	347,970	338,616
Note payable to SY Corporation, including accrued interest of $231,191 and $219,362 at March 31, 2017 and December 31, 2016, respectively (payment obligation currently in default – Note 5)	629,258	594,007
Notes payable to officers, including accrued interest of $14,845 and $11,018 as of March 31, 2017 and December 31, 2016, respectively (Note 5)	170,045	166,218
Non-permanent equity (Note 7)	185,000	185,000
Other short-term notes payable	59,857	4,095
Total current liabilities	6,322,798	5,727,224
Commitments and contingencies (Note 9)		
Stockholders' deficiency: (Note 7)		
Series B convertible preferred stock, $0.001 par value; $0.6667 per share liquidation preference; aggregate liquidation preference $25,001; shares authorized: 37,500; shares issued and outstanding: 11; common shares issuable upon conversion at 0.00030 common shares per Series B share	21,703	21,703
Common stock, $0.001 par value; shares authorized: 65,000,000; shares issued and outstanding: 2,289,045 and 2,149,045 at March 31, 2017 and December 31, 2016, respectively (Note 2)	2,289	2,149
Additional paid-in capital	153,044,452	151,993,550
Accumulated deficit	(158,979,923)	(157,510,779)
Total stockholders' deficiency	(5,911,479)	(5,493,377)
Total liabilities and stockholders' deficiency	$ 411,319	$ 233,847

See accompanying notes to condensed consolidated financial statements (unaudited).

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended March 31,	
	2017	**2016**
Operating expenses:		
General and administrative, including $631,910 and $1,163,411 to related parties for the three months ended March 31, 2017 and 2016, respectively	989,875	1,499,640
Research and development, including $289,220 and $417,960 to related parties for the three months ended March 31, 2017 and 2016, respectively	430,810	917,136
Total operating costs and expenses	1,420,685	2,416,776
Loss from operations	(1,420,685)	(2,416,776)
Interest expense, including $3,827 and $98,366 to related parties for the three months ended March 31, 2017 and 2016, respectively	(25,037)	(246,765)
Foreign currency transaction (loss)	(23,422)	(17,410)
Net loss	(1,469,144)	(2,680,951)
Adjustment related to Series G 1.5% Convertible Preferred Stock:		
Dividends on Series G 1.5% Convertible Preferred Stock	-	(981)
Net loss attributable to common stockholders	$ (1,469,144)	$ (2,681,932)
Net loss per common share - basic and diluted	$ (0.68)	$ (1.76)
Weighted average common shares outstanding - basic and diluted	2,159,267	1,525,946

See accompanying notes to condensed consolidated financial statements (unaudited).

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIENCY
(Unaudited)

Three Months Ended March 31, 2017

	Series B Convertible Preferred Stock		Common Stock				
	Shares	Amount	Shares	Par Value	Additional paid-in Capital	Accumulated Deficit	Total Stockholders' Deficiency
Balance, December 31, 2016	37,500	$ 21,703	2,149,045	$ 2,149	$ 151,993,550	$ (157,510,779)	$ (5,493,377)
Sale of common stock units in private placement			140,000	$ 140	$ 349,860		$ 350,000
Fair value of common stock options issued as compensation					$ 721,042		$ 721,042
Costs incurred in connection with sale of common stock units					$ (20,000)		$ (20,000)
Net loss						$ (1,469,144)	$ (1,469,144)
Balance, March 31, 2017	37,500	$ 21,703	2,289,045	$ 2,289	$ 153,044,452	$ (158,979,923)	$ (5,911,479)

See accompanying notes to condensed consolidated financial statements (unaudited).

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three Months Ended March 31,	
	2017	**2016**
Cash flows from operating activities:		
Net loss	$ (1,469,144)	$ (2,680,951)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	1,707	1,739
Amortization of discounts related to convertible notes payable	-	120,490
Fair value of warrants issued as additional consideration in connection with loans from officers	-	96,636
Stock-based compensation and fees included in -		
General and administrative expenses	494,904	1,030,831
Research and development expenses	226,138	440,540
Foreign currency transaction loss	23,422	17,410
Changes in operating assets and liabilities:		
(Increase) decrease in -		
Prepaid expenses	(50,270)	(43,629)
Increase (decrease) in -		
Accounts payable and accrued expenses	190,156	334,911
Accrued compensation and related expenses	281,224	309,100
Accrued interest payable	25,010	29,623
Other short-term notes payable	55,762	
Net cash used in operating activities	(221,091)	(343,300)
Cash flows from financing activities:		
Proceeds from sale of common stock units	350,000	194,635
Proceeds from issuance of notes payable to officers	-	105,200
Net cash provided by financing activities	350,000	296,154
Cash and cash equivalents:		
Net increase (decrease)	128,909	(47,146)
Balance at beginning of period	92,040	53,199
Balance at end of period	$ 220,949	$ 6,053

(Continued)

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(Continued)

	Three Months Ended March 31,	
	2017	**2016**
Supplemental disclosures of cash flow information:		
Cash paid for -		
Interest	$ 21	$ 8
Income taxes	$ -	$ -
Non-cash financing activities:		
Dividends on Series G 1.5% Convertible Preferred Stock	$ -	$ 981
Deferred financing costs charged to additional paid-in capital	$ -	$ 3,429
Accrual of fees payable to placement agent in connection with the sale of common stock units	$ 20,000	-
Fair value of common stock warrants issued to placement agent in connection with the sale of common stock units	$ 27,648	$ -

See accompanying notes to condensed consolidated financial statements (unaudited).

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Three Months Ended March 31, 2017 and 2016

1. Basis of Presentation

The condensed consolidated financial statements of RespireRx Pharmaceuticals Inc. ("RespireRx") and its wholly-owned subsidiary, Pier Pharmaceuticals, Inc. ("Pier") (collectively referred to herein as the "Company," unless the context indicates otherwise), at March 31, 2017 and for the three months ended March 31, 2017 and 2016, are unaudited. In the opinion of management, all adjustments (including normal recurring adjustments) have been made that are necessary to present fairly the consolidated financial position of the Company as of March 31, 2017, the results of its consolidated operations for the three months ended March 31, 2017 and 2016, and its consolidated cash flows for the three months ended March 31, 2017 and 2016. Consolidated operating results for the interim periods presented are not necessarily indicative of the results to be expected for a full fiscal year. The consolidated balance sheet at December 31, 2016 has been derived from the Company's audited consolidated financial statements at such date.

The condensed consolidated financial statements and related notes have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC"). Accordingly, certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been omitted pursuant to such rules and regulations. These condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and other information included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, as filed with the SEC.

2. Organization and Business

Organization

RespireRx was formed in 1987 under the name Cortex Pharmaceuticals, Inc. to engage in the discovery, development and commercialization of innovative, proprietary pharmaceutical compounds known as ampakines, that act within the central nervous system for the treatment of neurological and psychiatric disorders. These ampakines act by enhancing the actions of the excitatory neurotransmitter glutamate at AMPA glutamate receptors. Subsequently, it was determined that these ampakines enhance the activity of certain brain stem centers that regulate breathing and ameliorate the respiratory disorders and distress produced by various drugs, including opioids that interfere with normal neurological functioning.

In order to expand its position with respect to respiratory disorders, in August 2012, RespireRx acquired Pier. Pier was in the process of developing dronabinol, an FDA approved cannabinoid, for the treatment of obstructive sleep apnea.

On December 16, 2015, RespireRx filed a Certificate of Amendment to its Second Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to amend its Second Restated Certificate of Incorporation to change its name from Cortex Pharmaceuticals, Inc. to RespireRx Pharmaceuticals Inc.

While developing potential applications for respiratory disorders, RespireRx has retained and expanded its ampakine intellectual property and data with respect to neurological and psychiatric disorders and is considering developing certain indications, pending additional financing and/or strategic relationships.

Reverse Stock Split

On August 16, 2016, at a special meeting of the stockholders of the Company, the stockholders approved an amendment to the Company's Second Restated Certificate of Incorporation (i) to effect, at the discretion of the Company's Board of Directors, a three hundred twenty five-to-one (325-to-1) reverse stock split of all of the outstanding shares of the Company's common stock, par value $0.001 per share, and (ii) to set the number of the Company's authorized shares of stock at 70,000,000 shares, consisting of 65,000,000 shares designated as common stock, par value $0.001 per share, and 5,000,000 shares designated as preferred stock, par value $0.001 per share. On September 1, 2016, the Company filed a Certificate of Amendment to the Company's Second Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect the approved amendment.

Pursuant to the amendment, an aggregate of 191.068 fractional shares resulting from the reverse stock split were not issued, but were to 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 the Company's common stock on the OTCQB for the five trading days immediately before the Certificate of Amendment effecting the reverse stock split was filed with the Delaware Secretary of State ($6.7899 per share, on a post reverse stock split basis) for an aggregate of $1,298.

All share and per share amounts with respect to common stock presented herein have been retroactively restated to reflect the 325 to 1 reverse stock split as if it had been effected on the first day of the earliest period presented. Certain share amounts have been rounded to whole shares in the process of recording the effect of the reverse stock split.

3. Business

Since its formation in 1987, RespireRx has been engaged in the research and clinical development of 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 that are controlled in the pre-Bötzinger complex of the brain stem.

In clinical studies, the Company's two lead ampakines have shown preliminary efficacy in the control of respiratory depression produced by opioids, without altering their 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 of ampakines that do not display the undesirable side effects previously reported in animal models of earlier generations.

The Company owns patents and patent applications, or the rights thereto, for certain families of chemical compounds, including ampakines, which claim the chemical structures, their actions as ampakines and their use in the treatment of various disorders. Patents claiming a family of chemical structures, including CX1739 and CX1942, as well as their use in the treatment of various disorders, extend through at least 2028. Additional patents claiming a family of chemical structures, including CX717, as well as their use in the treatment of various disorders, expire in 2017 in the U.S. and in 2018 internationally.

In 2011, RespireRx conducted a re-evaluation of its strategic focus and determined that clinical development in the area of respiratory disorders, particularly sleep apnea and drug-induced respiratory depression, provided the most cost-effective opportunities for potential rapid development and commercialization of RespireRx's compounds. Accordingly, RespireRx narrowed its clinical focus at that time and sidelined other avenues of scientific inquiry. This re-evaluation provided the impetus for RespireRx's acquisition of Pier in August 2012, as described below.

The Company has continued to implement this strategic focus, notwithstanding a change in management in March 2013, and has continued its efforts to obtain the capital necessary to fund the clinical activities. As a result of the Company's scientific discoveries and the acquisition of strategic, exclusive license agreements, management believes that the Company is now a leader in developing drugs for neurologically controlled respiratory disorders, particularly sleep apneas and drug-induced respiratory depression.

On May 8, 2007, RespireRx entered into a license agreement, as subsequently amended, with the University of Alberta granting RespireRx exclusive rights to method of treatment patents held by the University of Alberta claiming the use of ampakines for the treatment of various respiratory disorders. These patents, along with RespireRx's own patents claiming chemical structures, comprise RespireRx's principal intellectual property supporting RespireRx's research and clinical development program in the use of ampakines for the treatment of neurologically controlled respiratory disorders. RespireRx has completed pre-clinical studies indicating that several of its ampakines, including CX717, CX1739 and CX1942, were efficacious in treating drug induced respiratory depression caused by opioids or certain anesthetics without offsetting the analgesic effects of the opioids or the anesthetic effects of the anesthetics. In two clinical Phase 2 studies, one of which was published in a peer-reviewed journal, CX717, a predecessor compound to CX1739 and CX1942, antagonized the respiratory depression produced by fentanyl, a potent narcotic, without affecting the analgesia produced by this drug. In addition, RespireRx has conducted a Phase 2A clinical study in which patients with sleep apnea were administered CX1739, RespireRx's lead clinical compound. The results suggested that CX1739 might have use as a treatment for central sleep apnea ("CSA") and mixed sleep apnea, but not obstructive sleep apnea ("OSA").

In order to expand RespireRx's respiratory disorders program, RespireRx acquired 100% of the issued and outstanding equity securities of Pier effective August 10, 2012 pursuant to an Agreement and Plan of Merger. Pier was formed in June 2007 (under the name SteadySleep Rx Co.) as a clinical stage pharmaceutical company to develop a pharmacologic treatment for OSA and had been engaged in research and clinical development activities.

Prior to the merger, Pier conducted a 21 day, randomized, double-blind, placebo-controlled, dose escalation Phase 2 clinical study in 22 patients with OSA, in which 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.

Through the merger, RespireRx gained access to an Exclusive License Agreement (as amended, the "Old License Agreement") that Pier had entered into with the University of Illinois on October 10, 2007. The Old License Agreement covered certain patents and patent applications in the United States and other countries claiming the use of certain compounds referred to as cannabinoids, of which dronabinol is a specific example, for the treatment of sleep-related breathing disorders (including sleep apnea). Dronabinol is a synthetic derivative of the naturally occurring substance in the cannabis plant, otherwise known as Δ9-THC (Δ9-tetrahydrocannabinol). Pier's business plan was to determine whether dronabinol would significantly improve subjective and objective clinical measures in patients with OSA. In addition, Pier intended to evaluate the feasibility and comparative efficacy of a proprietary formulation of dronabinol.

Dronabinol is a Schedule III, controlled generic drug with a relatively low abuse potential that is approved by the U.S. Food and Drug Administration (the "FDA") for the treatment of AIDS-related anorexia and chemotherapy-induced emesis. The use of dronabinol for the treatment of OSA is a novel indication for an already approved drug and, as such, the Company believes that it would only require approval by the FDA of a 505(b)(2) application, as opposed to the submission and approval of a full new drug application.

The Old License Agreement was terminated effective March 21, 2013, due to the Company's failure to make a required payment. Subsequently, current management opened negotiations with the University of Illinois, and as a result, the Company entered into a new license agreement (the "2014 License Agreement") with the University of Illinois on June 27, 2014, the material terms of which were similar to the previous Old License Agreement.

Similar to the Old License Agreement, the 2014 License Agreement grants the Company, among other provisions, exclusive rights: (i) to practice certain patents and patent applications, as defined in the 2014 License Agreement, that are held by the University of Illinois; (ii) to identify, develop, make, have made, import, export, lease, sell, have sold or offer for sale any related licensed products; and (iii) to grant sub-licenses of the rights granted in the 2014 License Agreement, subject to the provisions of the 2014 License Agreement. The Company is required under the 2014 License Agreement, among other terms and conditions, to pay the University of Illinois a license fee, royalties, patent costs and certain milestone payments.

While developing potential applications for respiratory disorders, RespireRx has retained and expanded its ampakine intellectual property and data with respect to neurological and psychiatric disorders and is considering developing certain indications, pending additional financing and/or strategic relationships. As an example, based on positive results from a Phase 2 clinical trial, RespireRx has filed patent applications for the use of ampakines for the treatment of Attention Deficit Hyperactivity Syndrome (ADHD). In addition, animal studies conducted in collaboration with Dr. David Fuller and his colleagues at the University of Florida have demonstrated the ability of our lead ampakines to significantly enhance the activity of motor nerves, including those innervating the diaphragm, and to improve breathing in animals with spinal cord injury. The Company believes that these results reflect a more general process whereby the ampakines might improve the motor nerve activity of a number of systems. While additional animal studies are planned at the University of Florida, the Company is also planning, pending additional financing, to conduct a Phase 2 clinical trial investigating the ability of our lead ampakines to improve breathing and motor function in spinal cord injury patients.

Going Concern

The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has incurred net losses of $1,469,144 and $2,681,932 and had negative operating cash flows of $221,091 and $343,300 for the three months ended March 31, 2017 and 2016, respectively. The Company also had a stockholders' deficiency of $5,911,479 at March 31, 2017, and expects to continue to incur net losses and negative operating cash flows for at least the next few years. As a result, management has concluded that there is substantial doubt about the Company's ability to continue as a going concern. In addition, the Company's independent registered public accounting firm, in its report on the Company's consolidated financial statements for the year ended December 31, 2016, expressed substantial doubt about the Company's ability to continue as a going concern.

The Company is currently, and has for some time, been in significant financial distress. It has limited cash resources and current assets and has no ongoing source of sustainable revenue. Management is continuing to address various aspects of the Company's operations and obligations, including, without limitation, debt obligations, financing requirements, intellectual property, licensing agreements, legal and patent matters and regulatory compliance, and has continued to raise new debt and equity capital to fund the Company's business activities from both related and unrelated parties, as described at Notes 5 and 7.

The Company is continuing efforts to raise additional capital in order to pay its liabilities, fund its business activities and underwrite its research and development programs. The Company regularly evaluates various measures to satisfy the Company's liquidity needs, including the development of agreements with collaborative partners and, when necessary, the exchange or restructuring of the Company's outstanding securities. As a result of the Company's current financial situation, the Company has limited access to external sources of debt and equity financing. In 2016, the Company completed several short-term borrowings from its Chief Executive Officer and its Chief Scientific Officer to fund operations, although there can be no assurances that such borrowings will continue to be available. Accordingly, there can be no assurances that the Company will be able to secure additional financing in the amounts necessary to fund its operating and debt service requirements. If the Company is unable to access sufficient cash resources on a timely basis, the Company may be forced to reduce or suspend operations indefinitely, or to discontinue operations entirely and liquidate.

4. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying condensed consolidated financial statements are prepared in accordance with United States generally accepted accounting principles ("GAAP") and include the financial statements of RespireRx and its wholly-owned subsidiary, Pier. Intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates include, among other things, accounting for potential liabilities, and the assumptions used in valuing stock-based compensation issued for services. Actual amounts may differ from those estimates.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents. The Company limits its exposure to credit risk by investing its cash with high quality financial institutions. The Company's cash balances may periodically exceed federally insured limits. The Company has not experienced a loss in such accounts to date.

Cash Equivalents

The Company considers all highly liquid short-term investments with maturities of less than three months when acquired to be cash equivalents.

Fair Value of Financial Instruments

The authoritative guidance with respect to fair value established a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three levels, and requires that assets and liabilities carried at fair value be classified and disclosed in one of three categories, as presented below. Disclosure as to transfers into and out of Levels 1 and 2, and activity in Level 3 fair value measurements, is also required.

Level 1. Observable inputs such as quoted prices in active markets for an identical asset or liability that the Company has the ability to access as of the measurement date. Financial assets and liabilities utilizing Level 1 inputs include active-exchange traded securities and exchange-based derivatives.

Level 2. Inputs, other than quoted prices included within Level 1, which are directly observable for the asset or liability or indirectly observable through corroboration with observable market data. Financial assets and liabilities utilizing Level 2 inputs include fixed income securities, non-exchange based derivatives, mutual funds, and fair-value hedges.

Level 3. Unobservable inputs in which there is little or no market data for the asset or liability which requires the reporting entity to develop its own assumptions. Financial assets and liabilities utilizing Level 3 inputs include infrequently-traded, non-exchange-based derivatives and commingled investment funds, and are measured using present value pricing models.

The Company determines the level in the fair value hierarchy within which each fair value measurement falls in its entirety, based on the lowest level input that is significant to the fair value measurement in its entirety. In determining the appropriate levels, the Company performs an analysis of the assets and liabilities at each reporting period end.

The carrying amounts of financial instruments (consisting of cash, cash equivalents, advances on research grants and accounts payable and accrued expenses) is considered by the Company to be representative of the respective fair values of these instruments due to the short-term nature of those instruments. With respect to the note payable to SY Corporation and the convertible notes payable, management does not believe that the credit markets have materially changed for these types of borrowings since the original borrowing date. The Company considers the carrying amounts of the notes payable to officers, inclusive of accrued interest, to be representative of the respective fair values of such instruments due to the short-term nature of those instruments and their terms.

Deferred Financing Costs

Costs incurred in connection with ongoing debt and equity financings, including legal fees, are deferred until the related financing is either completed or abandoned.

Costs related to abandoned debt or equity financings are charged to operations in the period of abandonment. Costs related to completed debt financings are presented as a direct deduction from the carrying amount of the related debt liability (see "Capitalized Financing Costs" below). Costs related to completed equity financings are charged directly to additional paid-in capital.

Capitalized Financing Costs

The Company presents debt issuance costs related to a debt liability in its condensed consolidated balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with the presentation for debt discounts. As of March 31, 2017 and December 31, 2016, the Company did not have any such capitalized financing costs on its condensed consolidated balance sheet.

Series G 1.5% Convertible Preferred Stock

The shares of Series G 1.5% Convertible Preferred Stock (including accrued dividends) issued in 2014 were mandatorily convertible into common stock at a fixed conversion rate on April 17, 2016 (if not converted earlier) and provided no right to receive a cash payment. Additionally, the Series G 1.5% Convertible Preferred Stock included no participatory or reset rights, or other protections (other than normal anti-dilution rights) based on subsequent events, including equity transactions. Accordingly, the Company categorized the Series G 1.5% Convertible Preferred Stock in stockholders' equity (deficiency), as there were no derivatives embedded in such security that would require identification, bifurcation and valuation. The Company did not issue any warrants to investors in conjunction with the Series G 1.5% Convertible Preferred Stock financing.

Convertible Notes Payable

Original Issuance of Notes and Warrants

The convertible notes sold to investors in 2014 and 2015 had a fixed interest rate of 10% per annum and are convertible into common stock at a fixed price of $11.3750 per share. The convertible notes have no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events. The warrants issued in connection with the sale of the convertible notes were exercisable at a fixed price of $11.3750 per share, provided no right to receive a cash payment, and included no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events. The Company determined that there were no embedded derivatives to be identified, bifurcated and valued in connection with this financing.

On November 5, 2014, the Company sold an aggregate principal amount of $238,500 of its convertible notes payable due September 15, 2015, which were subject to extension to September 15, 2016, at the option of the Company, subject to the issuance of additional warrants, and warrants to purchase shares of common stock exercisable into a fixed number of shares of common stock of the Company calculated as the principal amount of each convertible note divided by $11.3750 (reflecting 100% warrant coverage). The warrants did not have any cashless exercise provisions and, when issued, were exercisable through September 30, 2015 at a fixed price of $11.3750 per share. The shares of common stock issuable upon conversion of the notes payable and the exercise of the warrants were not subject to any registration rights.

In the same offering, on December 9, 2014, December 31, 2014, and February 2, 2015, the Company sold an additional $46,000, $85,000 and $210,000, respectively, of principal amount of the convertible notes and warrants to various accredited investors. The Company terminated this financing effective February 18, 2015, which had generated aggregate gross proceeds of $579,500, and in connection with which the Company had issued warrants to purchase 50,945 shares of common stock.

The closing market prices of the Company's common stock on the transaction closing dates of November 5, 2014, December 9, 2014, December 31, 2014 and February 2, 2015 were $17.0300 per share, $13.3575 per share, $14.6575 per share and $13.9750 per share, respectively, as compared to the fixed conversion price of the convertible notes and the fixed exercise price of the warrants of $11.3750 per share. Accordingly, the Company has accounted for the beneficial conversion features with respect to the sale of the convertible notes and the issuance of the warrants in accordance with Accounting Standards Codification Topic (ASC) 470-20, Accounting for Debt with Conversion and Other Options.

The Company considered the face value of the convertible notes to be representative of their fair value. The Company determined the fair value of the warrants based on the Black-Scholes option-pricing model. The relative fair value method generated respective fair values for each of the convertible notes and the warrants of approximately 50% for the convertible notes and approximately 50% for the warrants sold with the convertible notes. Once these values were determined, the fair value of the warrants of $289,106 and the fair value of the beneficial conversion feature of $290,394 (which were calculated based on the effective conversion price) were recorded as a reduction to the face value of the promissory note obligation. As a result, this aggregate debt discount reduced the carrying value of the convertible notes to zero at each issuance date. The excess amount generated from this calculation was not recorded, as the carrying value of a promissory note cannot be reduced below zero. The aggregate debt discount was amortized as interest expense over the original term of the promissory notes. The difference between the amortization of the debt discount calculated based on the straight-line method and the effective yield method was not material.

The cash fees paid to placement agents and for legal costs incurred from November 5, 2014 through February 2, 2015 with respect to this financing were deferred and capitalized as deferred offering costs and were amortized to interest expense over the original term of the convertible notes through September 15, 2015 on the straight-line method. The placement agent warrants were considered as an additional cost of the offering and were included in deferred offering costs at fair value. The difference between the amortization of the deferred offering costs calculated based on the straight-line method and the effective yield method was not material.

Extension of Notes and Original Warrants, and Issuance of New Warrants

On August 13, 2015, pursuant to the terms of the convertible notes, the Company elected to extend the maturity date of the convertible notes to September 15, 2016. Under the terms of the convertible notes, the Company was required to issue to note holders 27,396 additional warrants (the "New Warrants") that were exercisable through September 15, 2016. The New Warrants were exercisable for that number of shares of common stock of the Company calculated as the principal amount of the convertible notes (an aggregate amount of $579,500), plus any accrued and unpaid interest (an aggregate amount of $43,758), multiplied by 50%, and then divided by $11.3750. The New Warrants otherwise had terms substantially similar to the 50,945 original warrants issued to the investors. In connection with the extension of the maturity date of the convertible notes, the Board of Directors of the Company also determined to extend the termination date of the 50,945 original warrants to September 15, 2016, so that they were coterminous with the new maturity date of the convertible notes.

The Company reviewed the guidance in ASC 405-20, Extinguishment of Liabilities, and determined that the convertible notes had not been extinguished. The Company therefore concluded that the guidance in ASC 470-50, Modifications and Extinguishments, should be applied, which states that if the exchange or modification is not to be accounted for in the same manner as a debt extinguishment, then the fees shall be associated with the replacement or modified debt instrument and, along with any existing unamortized premium or discount, amortized as an adjustment of interest expense over the remaining term of the replacement or modified debt instrument using the interest method.

The Company deferred the debt modification costs related to the modification of the convertible notes and the issuance of the New Warrants (consisting of the fair value of the New Warrants) over the remaining term of the extended notes. The Company accounted for such costs as a discount to the convertible notes and amortized such costs to interest expense over the extended term of the convertible notes on the straight-line method. The difference between the amortization of these costs calculated based on the straight-line method and the effective yield method was not material.

The Company deferred the debt modification costs related to the extension of the original warrants (consisting of the fair value of the extension of the original warrants) over the remaining term of the extended convertible notes. The Company accounted for such costs as a discount to the convertible notes and amortized such costs to interest expense over the extended term of the convertible notes on the straight-line method. The difference between the amortization of these costs calculated based on the straight-line method and the effective yield method was not material.

The closing market price of the Company's common stock on the extension date of September 15, 2015 was $10.0750 per share, as compared to the fixed conversion price of the convertible notes and the fixed exercise price of both the original warrants and the New Warrants of $10.0750 per share. The Company accounted for the beneficial conversion features with respect to the extension of the convertible notes and the extension of the original warrants and the issuance of the New Warrants in accordance with ASC 470-20, Accounting for Debt with Conversion and Other Options.

The Company considered the face value of the convertible notes, plus the accrued interest thereon, to be representative of their fair value. The Company determined the fair value of the 27,396 New Warrants and the fair value of extending the 50,945 original warrants based on the Black-Scholes option-pricing model. The relative fair value method generated respective fair values for each of the convertible notes, including accrued interest, and the New Warrants and extension of the original warrants, of approximately 55% for the convertible notes, including accrued interest, and approximately 45% for the New Warrants and extension of the original warrants. Once these values were determined, the fair value of the New Warrants and extension of the original warrants of $277,918 and the fair value of the beneficial conversion feature of $206,689 (which were calculated based on the effective conversion price) were recorded as a reduction to the face value of the promissory note obligation. The aggregate debt discount was amortized as interest expense over the extended term of the promissory notes. The difference between the amortization of the debt discount calculated based on the straight-line method and the effective yield method was not material.

Note Exchange Agreements

During April and May 2016, the Company entered into Note Exchange Agreements with certain note holders, including one non-officer/director affiliate, as described below, representing an aggregate of $303,500 of principal amount of the convertible notes (out of a total of $579,500 of original principal amount of the convertible notes payable). The Note Exchange Agreements were substantially similar, and provided for the note holders to exchange their notes, original warrants and New Warrants (collectively, the "Exchanged Securities"), plus cash, in exchange for shares of the Company's common stock. In the aggregate, $344,483 of principal amount (which included accrued interest of $40,983) of the convertible notes, original warrants to purchase 26,681 shares of the Company's common stock and New Warrants to purchase 14,259 shares of the Company's common stock, plus an aggregate of $232,846 in cash, were exchanged for 101,508 shares of the Company's common stock, with a total market value of $631,023 (average $6.2075 per share), which resulted in a credit to total stockholders' deficiency of $577,329. All of the Exchanged Securities were cancelled as a result of the respective exchange transactions.

Among the executed Note Exchange Agreements, the Company entered into one Note Exchange Agreement with a non-officer/director affiliate effective May 4, 2016 (the financial information with respect thereto is included in the summary paragraph presented above), pursuant to which this affiliate exchanged $28,498 of principal amount (which included accrued interest of $3,498) of the convertible notes, original warrants to purchase 2,198 shares of the Company's common stock and New Warrants to purchase 1,178 shares of the Company's common stock, plus $19,200 in cash, in return for 8,386 shares of the Company's common stock.

This transaction was treated as though the exchanging note holders agreed to exchange their convertible notes (including accrued interest) into common stock at a 50% discount to the conversion rate ($11.3750 per share) provided for by the terms of the convertible notes, if they also exchanged all of their warrants associated with the convertible notes, plus paid cash equal to a 50% discount to the exercise price ($11.3750 per share). For accounting purposes, the transactions have been treated as if (i) the participants had converted the convertible notes (which included accrued but unpaid interest of $40,993) at a conversion price reduced from $11.3750 to $5.6875 per share, and that such conversions in the aggregate resulted in the issuance of an aggregate of 60,568 shares of common stock, and (ii) the participants had exercised their original warrants to purchase an aggregate of 26,681 shares of common stock and the New Warrants to purchase an aggregate of 14,259 shares of common stock, all at an exercise price reduced from $11.3750 to $5.6875 per share, and that such exercise of the warrants generated an aggregate cash payment to the Company of $232,846 and resulted in the issuance of an aggregate of 40,940 shares of common stock. In connection with the exchange of the convertible notes, original warrants, New Warrants and the payment of cash, a total of 101,508 shares of common stock in the aggregate were issued. The closing market price of the Company's common stock during the period that these exchange transactions were entered into ranged from $5.8500 to $7.7675 per share.

The Company reviewed the guidance in ASC 470-20-40-13 through 17, Recognition of Expense Upon Conversion, and in ASC 470-20-40-26, Induced Conversions. Pursuant to this accounting guidance, for those convertible note holders accepting the Company's exchange offer, the Company evaluated the fair value of the incremental consideration paid to induce the convertible note holders to exchange their convertible notes for equity (i.e., 30,284 shares of common stock), based on the closing market price of the Company's common stock on the date of each transaction, and recorded a charge to operations of $188,274.

The Company evaluated the warrants exchanged in conjunction with the Note Exchange Agreements. The Company calculated the fair value of the warrants exchanged (consisting of the warrants issued in conjunction with the original issuance of the convertible notes) as if the warrants were modified immediately before the theoretical warrant modification and immediately after such warrant modification. As the fair value of the warrants immediately after the modifications was less than the fair value of the warrants immediately before the modifications (both amounts calculated pursuant to the Black-Scholes option-pricing model), the Company did not record any accounting entry with respect to the warrant exchange transactions.

The fair value of the warrants subject to the Note Exchange Agreements was estimated using the Black-Scholes option-pricing model utilizing the following assumptions:

	Before Warrant Modifications	After Warrant Modifications
Exercise price per warrant	$ 11.3750	$ 5.6875
Stock price	$ 5.8500 to $7.5400	$ 5.8500 to $7.5400
Risk-free interest rate	0.23%	0.23%
Expected dividend yield	0%	0%
Expected volatility	201.59%	201.59%
Expected life	4.4 to 4.5 months	0 months

2015 Unit Offering

Units sold to investors on August 28, 2015, September 28, 2015 and November 2, 2015 were comprised of one share of the Company's common stock and one common stock purchase warrant to purchase two additional shares of the Company's common stock. Units were sold for $6.83475 per unit and the warrants issued in connection with the units were exercisable at a fixed price $6.83475 per share of the Company's common stock. The warrants provided no right to receive a cash payment, and included no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events. The Company determined that there were no embedded derivatives to be identified, bifurcated and valued in connection with this unit financing. The aggregate gross proceeds of this unit financing was $1,194,710.

Unit Exchange Agreements

During April and May 2016, the Company entered into Unit Exchange Agreements with certain warrant holders, including two affiliates, one of whom was Dr. Manuso, and the other of whom was a non-officer/director affiliate, both as described below. The Unit Exchange Agreements were substantially similar, and provided for the warrant holders to exchange (i) existing warrants to purchase an aggregate of 217,188 shares of the Company's common stock (which were cancelled as a result of the respective exchange transactions), plus (ii) an aggregate of $529,394 in cash, in return for (i) an aggregate of 108,594 shares of the Company's common stock, and (ii) new warrants to purchase an aggregate of 108,594 shares of the Company's common stock. The new warrants have the same expiration date as the original warrants (September 30, 2020) and may be exercised for cash or on a cashless basis at $4.8750 per share.

Among the executed Unit Exchange Agreements, the Company entered into a Unit Exchange Agreement with Dr. Manuso effective April 6, 2016 (the financial information with respect thereto is included in the summary paragraph presented above), pursuant to which Dr. Manuso exchanged a warrant to purchase 73,156 shares of the Company's common stock that was originally issued to him in the Company's August 28, 2015 unit offering (which was cancelled as a result of the exchange transaction), plus $178,317 in cash, in return for 36,578 shares of the Company's common stock and the issuance of a new warrant to purchase 36,578 shares of the Company's common stock. The new warrant has the same expiration date as the original warrant (September 30, 2020) and may be exercised for cash or on a cashless basis at $4.8750 per share. The closing market price of the Company's common stock on April 6, 2016 was $7.7675 per share.

Among the executed Unit Exchange Agreements, the Company also entered into Unit Exchange Agreements (which are included in the summary paragraph above) with a non-officer/director affiliate (and his affiliate) effective May 4, 2016 (the financial information with respect thereto is included in the summary paragraph presented above), pursuant to which this affiliate exchanged warrants to purchase 88,132 shares of the Company's common stock that were originally issued to the affiliate in the Company's August 28, 2015 unit offering (which were cancelled as a result of the exchange transaction), plus $214,822 in cash, in return for 44,066 shares of the Company's common stock and the issuance of new warrants to purchase 44,066 shares of the Company's common stock. The new warrants have the same expiration date as the original warrants (September 30, 2020) and may be exercised for cash or on a cashless basis at $4.8750 per share. The closing market price of the Company's common stock on May 4, 2016 was $5.8500 per share.

This transaction was treated as though exchanging warrant holders who received their warrants in any of the three closings of the Company's 2015 unit offering agreed to exchange their warrants associated with such financing, plus paid cash equal to a reduced exercise price per share ($4.8750 per share) for 50% of such warrants, with 50% of the warrants replaced with similar warrants with the same term at a reduced exercise price. For accounting purposes, the transactions have been treated as if (i) participants exercised one-half of the existing warrants entitling them to purchase an aggregate of 217,188 shares of the Company's common stock that were originally issued to them in the Company's unit offering, with closings on August 28, 2015, September 28, 2015 and November 2, 2015 (i.e., warrants to purchase 108,594 shares of common stock), at an exercise price reduced from $6.8348 to $4.8750 per share, and (ii) the other one-half of the original warrants were cancelled. The Unit Exchange Agreements also provided for the Company to issue new warrants to the participants to purchase an aggregate of 108,594 shares of common stock. The new warrants have the same expiration date as the original warrants (September 30, 2020) and may be exercised for cash or on a cashless basis at $4.8750 per share. For accounting purposes, the transaction was treated as if the warrant exercise price for all of the warrants was reduced from $6.8348 to $4.8750 per share, in exchange for which 50% of the warrants were exercised for cash at the reduced exercise price, and the remaining 50% of the warrants continued to remain outstanding through September 30, 2020 and gained a cashless exercise provision. The closing market price of the Company's common stock during the period that these exchange transactions were entered into ranged from $5.8500 to $7.7675 per share.

The Company evaluated the warrants exchanged in conjunction with the Unit Exchange Agreements. The Company calculated the fair value of the warrants exchanged as if the warrants were modified immediately before the theoretical warrant modification and immediately after such warrant modification. As the fair value of the warrants immediately after the modifications was less than the fair value of the warrants immediately before the modifications (both amounts calculated pursuant to the Black-Scholes option-pricing model), the Company did not record any accounting entry with respect to the warrant exchange transactions.

The fair value of the warrants subject to the Unit Exchange Agreements was estimated using the Black-Scholes option-pricing model utilizing the following assumptions:

	Before Warrant Modifications	After Warrant Modifications
Exercise price per warrant	$ 6.8348	$ 4.8750
Stock price	$ 5.8500 to $7.7675	$ 5.8500 to $7.7675
Risk-free interest rate	1.12%	0.23 % and 1.12 %
Expected dividend yield	0%	0%
Expected volatility	201.59%	201.59%
Expected life	4.4 to 4.5 years	0 years to 4.5 years

1 st 2016 Unit Offering

Units were sold to investors from January 8, 2016 through June 30, 2016. These units were comprised of one share of the Company's common stock and one common stock purchase warrant to purchase two additional shares of the Company's common stock. Units were sold for $7.2085 per unit and the warrants issued in connection with the units were exercisable at a fixed price $7.93 per share of the Company's common stock. The warrants provided no right to receive a cash payment, and included no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events. The warrants contained a cashless exercise provision and certain blocker provisions preventing exercise during periods of time when the investor would beneficially own more than 4.99% of the Company's outstanding shares of common stock if such exercise were to occur. The Company determined that there were no embedded derivatives to be identified, bifurcated and valued in connection with this unit financing. The aggregate gross proceeds of this unit financing was $307,985.

The closing market prices of the Company's common stock on the transaction closing dates ranging from January 8, 2016 through June 30, 2016, ranged from a low of $3.4416 on February 9, 2016 to a high of $9.7403 on February 29, 2016.

2 nd 2016 Unit Offering

On December 29, 2016 and December 30, 2016, the Company sold units to investors for aggregate gross proceeds of $185,000, with each unit consisting of one share of the Company's common stock and one common stock purchase warrant to purchase one share of the Company's common stock. Units were sold for $1.42 per unit and the warrants issued in connection with the units are exercisable at a fixed price $1.562 per share of the Company's common stock. The warrants contain a cashless exercise provision and certain blocker provisions preventing exercise during periods of time when the investor would beneficially own more than 4.99% of the Company's outstanding shares of common stock if such exercise were to occur. The warrants are also subject to redemption by the Company at $0.001 per share upon ten (10) days written notice if the Company's common stock closes at 200% or more of the unit purchase price for any five (5) consecutive trading days. Investors received an unlimited number of piggy-back registration rights. Investors received an unlimited number of exchange rights to exchange such investor's entire investment (and not less than the entire investment) into subsequent offerings of the Company until the earlier of: (i) the completion of any number of subsequent financings aggregating at least $15 million gross proceeds to the Company, or (ii) December 30, 2017. The dollar amount used to determine the amount invested or exchanged into the subsequent financing will be 1.2 times the amount of the original investment. Under certain circumstances, the ratio may be 1.4 instead of 1.2. The Company evaluated whether the warrants or the exchange rights met criteria to be accounted for as a derivative in accordance with Accounting Standard Codification (ASC) 815, and determined that the derivative criteria were not met. Therefore, the Company determined no bifurcation and separate valuation was necessary and the warrants and exchange right should be accounted for with the host instrument. The Company then looked to how the host instrument should be classified and determined that it cannot be classified as permanent equity as there is a potential that the Unit investment amount could be exchanged for debt (convertible or otherwise) or for redeemable preferred stock. Since the exchange right expires within one year, the Company concluded that the Unit investment would be appropriately classified as a current liability. The Company also evaluated whether or not the carrying value of the current liability required adjustment or revaluation at March 31, 2017 and concluded that, because the liability is short term, and because the Company has not conducted an offering that would likely result in an exchange, the carrying value was not required to be adjusted.

The closing market prices of the Company's common stock on December 29, 2016 and December 30, 2016 were $2.85 and $2.80 respectively.

2017 Unit Offering

On March 10, 2017 and March 28, 2017, the Company sold units to investors for aggregate gross proceeds of $350,000, with each unit consisting of one share of the Company's common stock and one common stock purchase warrant to purchase one share of the Company's common stock. Units were sold for $2.50 per unit and the warrants issued in connection with the units are exercisable at a fixed price $2.75 per share of the Company's common stock. The warrants contain a cashless exercise provision and certain blocker provisions preventing exercise during periods of time when the investor would beneficially own more than 4.99% of the Company's outstanding shares of common stock if such exercise were to occur. The warrants are also subject to redemption by the Company at $0.001 per share upon ten (10) days written notice if the Company's common stock closes at 200% or more of the unit purchase price for any five (5) consecutive trading days. Investors were non-affiliated purchasers. Investors received an unlimited number of piggy-back registration rights. Investors received an unlimited number of exchange rights, which are options and not obligations, to exchange such investor's entire investment (and not less than the entire investment) into one or more subsequent equity financings (consisting solely of convertible preferred stock or common stock or units containing preferred stock or common stock and warrants exercisable only into preferred stock or common stock) that would be considered as "permanent equity" under United States Generally Accepted Accounting Principles and the rules and regulations of the United States Securities and Exchange Commission, and therefore classified as stockholders' equity, and excluding any form of debt or convertible debt (each such financing a "Subsequent Equity Financing"). These exchange rights are effective until the earlier of: (i) the completion of any number of subsequent financings aggregating at least $15 million gross proceeds to the Company, or (ii) December 30, 2017. The dollar amount used to determine the amount invested or exchanged into the subsequent financing will be 1.2 times the amount of the original investment. Under certain circumstances, the ratio may be 1.4 instead of 1.2. The exchange right does not permit the investors to exchange into a debt offering or into redeemable preferred stock, therefore, unlike the 2 nd 2016 Unit Offering, the 2017 Unit Offering resulted in the issuance of permanent equity. The Company evaluated whether the warrants or the exchange rights met criteria to be accounted for as a derivative in accordance with Accounting Standard Codification Topic (ASC) 815, and determined that the derivative criteria were not met. Therefore, the Company determined no bifurcation and separate valuation was necessary and the warrants and exchange right should be accounted for with the host instrument. The closing market prices of the Company's common stock on March 10, 2017 and March 28, 2017 were $4.05 and $3.80 respectively. In connection with this transaction, Aurora served as a placement agent and earned $20,000 of cash fees and 8,000 placement agent common stock warrants associated with the closing of 2017 Unit Offering. The cash fees were unpaid as of March 31, 2017 and have been included in accounts payable and accrued expenses and charged against Additional paid-in capital as of March 31, 2017. The placement agent common stock warrants were valued at $27,648 and were accounted for in Additional paid-in capital as of March 31, 2017. For additional information see Note 8.

Equipment

Equipment is recorded at cost and depreciated on a straight-line basis over their estimated useful lives, which range from three to five years.

Long-Term Prepaid Insurance

Long-term prepaid insurance represents the premium paid in March 2017 for directors and officers' insurance tail coverage, which is being amortized on a straight-line basis over the policy period of six years. The amount amortizable in the ensuing twelve month period is recorded as a current asset in the Company's condensed consolidated balance sheet at each reporting date.

Impairment of Long-Lived Assets

The Company reviews its long-lived assets, including long-term prepaid insurance, for impairment whenever events or changes in circumstances indicate that the total amount of an asset may not be recoverable, but at least annually. An impairment loss is recognized when estimated future cash flows expected to result from the use of the asset and its eventual disposition is less than the asset's carrying amount. The Company has not deemed any long-lived assets as impaired at March 31, 2017.

Stock-Based Compensation

The Company periodically issues common stock and stock options to officers, directors, Scientific Advisory Board members and consultants for services rendered. Such issuances vest and expire according to terms established at the issuance date of each grant.

The Company accounts for stock-based payments to officers and directors by measuring the cost of services received in exchange for equity awards based on the grant date fair value of the awards, with the cost recognized as compensation expense on the straight-line basis in the Company's financial statements over the vesting period of the awards. The Company accounts for stock-based payments to Scientific Advisory Board members and consultants by determining the value of the stock compensation based upon the measurement date at either (a) the date at which a performance commitment is reached, or (b) at the date at which the necessary performance to earn the equity instruments is complete.

Stock grants, which are generally subject to time-based vesting, are measured at the grant date fair value and charged to operations ratably over the vesting period.

Stock options granted to members of the Company's Scientific Advisory Board and to outside consultants are revalued each reporting period until vested to determine the amount to be recorded as an expense in the respective period. As the stock options vest, they are valued on each vesting date and an adjustment is recorded for the difference between the value already recorded and the value on the date of vesting.

The fair value of stock options granted as stock-based compensation is determined utilizing the Black-Scholes option-pricing model, and is affected by several variables, the most significant of which are the life of the equity award, the exercise price of the stock option as compared to the fair market value of the common stock on the grant date, and the estimated volatility of the common stock over the term of the equity award. Estimated volatility is based on the historical volatility of the Company's common stock. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant. The fair market value of common stock is determined by reference to the quoted market price of the Company's common stock.

Stock options and warrants issued to non-employees as compensation for services to be provided to the Company or in settlement of debt are accounted for based upon the fair value of the services provided or the estimated fair value of the stock option or warrant, whichever can be more clearly determined. Management uses the Black-Scholes option-pricing model to determine the fair value of the stock options and warrants issued by the Company. The Company recognizes this expense over the period in which the services are provided.

For stock options requiring an assessment of value during the three months ended March 31, 2017, the fair value of each stock option award was estimated using the Black-Scholes option-pricing model using the following assumptions:

Risk-free interest rate	1.75%
Expected dividend yield	0%
Expected volatility	145%
Expected life	3.6 to 5 years

For stock options requiring an assessment of value during the three months ended March 31, 2016, the fair value of each stock option award was estimated using the Black-Scholes option-pricing model using the following assumptions:

Risk-free interest rate	1.23%
Expected dividend yield	0%
Expected volatility	201%
Expected life	4.4 to 5 years

The Company recognizes the fair value of stock-based compensation in general and administrative costs and in research and development costs, as appropriate, in the Company's condensed consolidated statements of operations. The Company issues new shares of common stock to satisfy stock option and warrant exercises. There were no stock options exercised during the three months ended March 31, 2017 and 2016.

Income Taxes

The Company accounts for income taxes under an asset and liability approach for financial accounting and reporting for income taxes. Accordingly, the Company recognizes deferred tax assets and liabilities for the expected impact of differences between the financial statements and the tax basis of assets and liabilities.

The Company records a valuation allowance to reduce its deferred tax assets to the amount that is more likely than not to be realized. In the event the Company was to determine that it would be able to realize its deferred tax assets in the future in excess of its recorded amount, an adjustment to the deferred tax assets would be credited to operations in the period such determination was made. Likewise, should the Company determine that it would not be able to realize all or part of its deferred tax assets in the future, an adjustment to the deferred tax assets would be charged to operations in the period such determination was made.

Pursuant to Internal Revenue Code Sections 382 and 383, use of the Company's net operating loss and credit carryforwards may be limited if a cumulative change in ownership of more than 50% occurs within any three-year period since the last ownership change. The Company may have had a change in control under these Sections. However, the Company does not anticipate performing a complete analysis of the limitation on the annual use of the net operating loss and tax credit carryforwards until the time that it anticipates it will be able to utilize these tax attributes.

As of March 31, 2017, the Company did not have any unrecognized tax benefits related to various federal and state income tax matters and does not anticipate any material amount of unrecognized tax benefits within the next 12 months.

The Company is subject to U.S. federal income taxes and income taxes of various state tax jurisdictions. As the Company's net operating losses have yet to be utilized, all previous tax years remain open to examination by Federal authorities and other jurisdictions in which the Company currently operates or has operated in the past.

The Company accounts for uncertainties in income tax law under a comprehensive model for the financial statement recognition, measurement, presentation and disclosure of uncertain tax positions taken or expected to be taken in income tax returns as prescribed by GAAP. The tax effects of a position are recognized only if it is "more-likely-than-not" to be sustained by the taxing authority as of the reporting date. If the tax position is not considered "more-likely-than-not" to be sustained, then no benefits of the position are recognized. As of March 31, 2017, the Company had not recorded any liability for uncertain tax positions. In subsequent periods, any interest and penalties related to uncertain tax positions will be recognized as a component of income tax expense.

Foreign Currency Transactions

The note payable to SY Corporation, which is denominated in a foreign currency (the South Korean Won), is translated into the Company's functional currency (the United States Dollar) at the exchange rate on the balance sheet date. The foreign currency exchange gain or loss resulting from translation is recognized in the related consolidated statements of operations.

Research Grants

The Company recognizes revenues from research grants as earned based on the percentage-of-completion method of accounting and issues invoices for contract amounts billed based on the terms of the grant agreement. Amounts recorded under research grants in excess of amounts earned are classified as unearned grant revenue liability in the Company's condensed consolidated balance sheet. Grant receivable reflects contractual amounts due and payable under the grant agreement. The payment of grants receivable are based on progress reports provided to the grant provider by the Company.

Research grants are generally funded and paid through government or institutional programs. Amounts received under research grants are nonrefundable, regardless of the success of the underlying research project, to the extent that such amounts are expended in accordance with the approved grant project. The Company had no research grant revenue during the three months ended March 31, 2017 and 2016. At March 31, 2017 and 2016, the Company did not have any grants receivable or unearned grant revenues.

Research and Development

Research and development costs include compensation paid to management directing the Company's research and development activities, and fees paid to consultants and outside service providers and organizations (including research institutes at universities), patent fees and costs, and other expenses relating to the acquisition, design, development and clinical testing of the Company's treatments and product candidates.

Research and development costs incurred by the Company under research grants are expensed as incurred over the life of the underlying contracts, unless the terms of the contract indicate that a different expensing schedule is more appropriate.

The Company reviews the status of its research and development contracts on a quarterly basis.

On May 6, 2016, the Company made an advance payment to Duke University with respect to the Phase 2A clinical trial of CX1739. At March 31, 2017, a balance of $48,912 remained from the advance payment.

License Agreements

Obligations incurred with respect to mandatory payments provided for in license agreements are recognized ratably over the appropriate period, as specified in the underlying license agreement, and are recorded as liabilities in the Company's condensed consolidated balance sheet, with a corresponding charge to research and development costs in the Company's condensed consolidated statement of operations. Obligations incurred with respect to milestone payments provided for in license agreements are recognized when it is probable that such milestone will be reached, and are recorded as liabilities in the Company's condensed consolidated balance sheet, with a corresponding charge to research and development costs in the Company's condensed consolidated statement of operations. Payments of such liabilities are made in the ordinary course of business.

Patent Costs

Due to the significant uncertainty associated with the successful development of one or more commercially viable products based on the Company's research efforts and any related patent applications, all patent costs, including patent-related legal and filing fees, are expensed as incurred.

Comprehensive Income (Loss)

Components of comprehensive income or loss, including net income or loss, are reported in the financial statements in the period in which they are recognized. Comprehensive income or loss is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources. Net income (loss) and other comprehensive income (loss) are reported net of any related tax effect to arrive at comprehensive income (loss). The Company did not have any items of comprehensive income (loss) for the three months ended March 31, 2017 and 2016.

Earnings per Share

The Company's computation of earnings per share ("EPS") includes basic and diluted EPS. Basic EPS is measured as the income (loss) attributable to common stockholders divided by the weighted average common shares outstanding for the period. Diluted EPS is similar to basic EPS but presents the dilutive effect on a per share basis of potential common shares (e.g., warrants and options) as if they had been converted at the beginning of the periods presented, or issuance date, if later. Potential common shares that have an anti-dilutive effect (i.e., those that increase income per share or decrease loss per share) are excluded from the calculation of diluted EPS.

Net income (loss) attributable to common stockholders consists of net income or loss, as adjusted for actual and deemed preferred stock dividends declared, amortized or accumulated.

Loss per common share is computed by dividing net loss by the weighted average number of shares of common stock outstanding during the respective periods. Basic and diluted loss per common share is the same for all periods presented because all warrants and stock options outstanding are anti-dilutive.

At March 31, 2017 and 2016, the Company excluded the outstanding securities summarized below, which entitle the holders thereof to acquire shares of common stock, from its calculation of earnings per share, as their effect would have been anti-dilutive.

	March 31,	
	2017	**2016**
Series B convertible preferred stock	11	11
Series G 1.5% convertible preferred stock	-	242,002
Convertible notes payable	30,596	57,744
Common stock warrants	688,198	554,691
Common stock options	1,702,749	1,297,919
Total	2,421,554	2,152,367

Reclassifications

Certain comparative figures in 2016 have been reclassified to conform to the current quarter's presentation. These reclassifications were immaterial, both individually and in the aggregate.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update No. 2014-09 (ASU 2014-09), Revenue from Contracts with Customers. ASU 2014-09 will eliminate transaction- and industry-specific revenue recognition guidance under current GAAP and replace it with a principle based approach for determining revenue recognition. ASU 2014-09 will require that companies recognize revenue based on the value of transferred goods or services as they occur in the contract. ASU 2014-09 also will require additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. ASU 2014-09 is effective for reporting periods beginning after December 15, 2017, with early adoption permitted only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. Entities will be able to transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. The adoption of ASU 2014-09 is not expected to have any impact on the Company's financial statement presentation or disclosures.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), Leases (Topic 842). ASU 2016-02 requires a lessee to record a right-of-use asset and a corresponding lease liability, initially measured at the present value of the lease payments, on the balance sheet for all leases with terms longer than 12 months, as well as the disclosure of key information about leasing arrangements. ASU 2016-02 requires recognition in the statement of operations of a single lease cost, calculated so that the cost of the lease is allocated over the lease term. ASU 2016-02 requires classification of all cash payments within operating activities in the statement of cash flows. Disclosures are required to provide the amount, timing and uncertainty of cash flows arising from leases. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early application is permitted. The Company is currently in the process of evaluating the impact that the adoption of ASU 2016-02 will have on the Company's financial statement presentation and disclosures.

In May 2017, the FASB issued Accounting Standards Update No. 2017-09 (ASU 2017-09), Compensation – Stock Compensation (Topic 718) Scope of Modification Accounting. The amendments in ASU 2017-09 provide guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. The adoption of ASU 2017-09 which will become effective for annual periods beginning after December 15, 2017 and for interim periods within those annual periods, is not expected to have any impact on the Company's financial statement presentation or disclosures.

Management does not believe that any other recently issued, but not yet effective, authoritative guidance, if currently adopted, would have a material impact on the Company's financial statement presentation or disclosures.

5. Notes Payable

Convertible Notes Payable

On November 5, 2014, the Company entered into a Convertible Note and Warrant Purchase Agreement (the "Purchase Agreement") with various accredited, non-affiliated investors (each, a "Purchaser"), pursuant to which the Company sold an aggregate principal amount of $238,500 of its (i) Convertible Notes due September 15, 2015 (each a "Note", and together, the "Notes") and (ii) Warrants to purchase shares of common stock (the "Warrants") as described below. On December 9, 2014, December 31, 2014, and February 2, 2015, the Company sold an additional $46,000, $85,000 and $210,000, respectively, of principal amount of the Notes and Warrants to various accredited investors. This private placement, which generated aggregate gross proceeds of $579,500, was terminated effective February 18, 2015. When initially issued, the outstanding principal balance of each Note and all accrued and unpaid interest, compounded annually at 10%, was due and payable in full on September 15, 2015. As discussed below, the maturity date of the Notes was subsequently extended to September 15, 2016, in accordance with the terms of the Notes.

Each Purchaser could elect, at any time, at its option and in its sole discretion, to convert the outstanding principal amount into a fixed number of shares of the Company's common stock equal to the quotient obtained by dividing the outstanding principal amount, plus any accrued and unpaid interest, by $11.3750. In the case of a Qualified Financing (as defined in the Purchase Agreement), the outstanding principal amount and accrued and unpaid interest under the Notes would automatically convert into common stock at a common stock equivalent price of $11.3750. In the case of an Acquisition (as defined in the Purchase Agreement), the Company could elect to either: (i) convert the outstanding principal amount and all accrued and unpaid interest under the Notes into shares of common stock or (ii) accelerate the maturity date of the Notes to the date of closing of the Acquisition. Each Warrant to purchase shares of common stock was exercisable into a fixed number of shares of common stock of the Company calculated as each Purchaser's investment amount divided by $11.3750. The Warrants were originally exercisable through September 15, 2015 at a fixed price of $11.3750 per share and did not have any cashless exercise provisions. The shares of common stock issuable upon conversion of the Notes and exercise of the Warrants were not subject to any registration rights.

On August 13, 2015, the Company, pursuant to the terms of the Notes, gave the Note holders written notice, thirty days in advance of the September 15, 2015 maturity date of the Notes, of the Company's election to extend the maturity date of the Notes to September 15, 2016. As a consequence of this election, under the terms of the Notes, the Company issued to Note holders 27,396 additional warrants (the "New Warrants") that were exercisable through September 15, 2016. As set forth in the Notes, the New Warrants were exercisable for that number of shares of common stock of the Company calculated as the principal amount of the Notes (an aggregate amount of $579,500), plus any accrued and unpaid interest (an aggregate amount of $43,758), multiplied by 50%, and then divided by $11.3750. The New Warrants otherwise had terms substantially similar to the 50,945 Warrants originally sold to investors. In connection with the extension of the maturity date of the Notes, the Board of Directors of the Company also determined to extend the termination date of the 50,945 original Warrants to September 15, 2016, so that they were coterminous with the new maturity date of the Notes.

The Company used the Black-Scholes option-pricing model to estimate the fair value of the New Warrants to purchase 27,396 shares of the Company's common stock and the fair value of extending the termination date of the 50,945 original Warrants sold to investors. The Company considered the face value of the Notes, plus the accrued interest thereon, to be representative of their fair value. The relative fair value method generated respective fair values for each of the Notes, including accrued interest, and the New Warrants and extension of the original Warrants, of approximately 55% for the Notes, including accrued interest, and approximately 45% for the New Warrants and extension of the original Warrants. The 45% value attributed to the New Warrants and extension of the original Warrants of $277,918 was amortized as additional interest expense over the extended term of the Notes.

During April and May 2016, the Company entered into Note Exchange Agreements with certain note holders representing an aggregate of $303,500 of principal amount of the Notes (out of a total of $579,500 of original principal amount of the Notes). Pursuant to the Note Exchange Agreements, an aggregate of $344,483, which included accrued interest of $40,983, of the Notes were exchanged (together with original warrants to purchase 26,681 shares of the Company's common stock, New Warrants to purchase 14,259 shares of the Company's common stock, and the payment of an aggregate of $232,846 in cash) into a total of 101,508 shares of the Company's common stock. None of the Notes had previously been converted into shares of the Company's common stock. For accounting purposes, for those convertible note holders accepting the Company's exchange offer, the Company evaluated the fair value of the incremental consideration paid to induce the convertible note holders to exchange their convertible notes for equity (i.e., 30,284 shares of common stock), based on the closing market price of the Company's common stock on the date of each transaction, and recorded a charge to operations of $188,274. Information with respect to the Black-Scholes variables used in connection with the evaluation of the fair value of the exchange consideration is provided at Note 4.

During year ended December 31, 2016, in connection with the Note Exchange Agreements, the Company wrote off and charged to interest expense the unamortized discount related to the value attributed to the New Warrants and the extension of the original Warrants of $66,811, and the unamortized discount related to the value attributed to the related beneficial conversion feature of $49,688.

On September 15, 2016, the remaining outstanding Notes previously issued by the Company on November 5, 2014, December 9, 2014, December 31, 2014, and February 2, 2015, matured and the principal and accrued interest under those remaining Notes became due and payable upon demand. At the September 15, 2016 maturity date, Notes totaling $329,261, which included accrued interest of $53,261, became due and payable upon demand. During October 2016, holders of four Notes issued formal notices of default, and as a result, those four Notes were deemed to be in default under the terms of the Notes and began to accrue interest at the default rate of 12% per annum from the default date in accordance with the terms of the Notes. As of March 31, 2017 such notes remained in default and totaled $77,529, including accrued interest of $16,529.

Additionally, on September 15, 2016, the remaining outstanding 13,137 New Warrants and 24,264 original Warrants (which had been previously extended) expired.

The Notes (including those placed in default as described above) consist of the following at March 31, 2017 and December 31, 2016:

	March 31, 2017	December 31, 2016
Principal amount of notes payable	$ 276,000	$ 276,000
Add accrued interest payable	71,970	62,616
	$ 347,970	$ 338,616

As of March 31, 2017, the remaining outstanding Notes were convertible into 30,596 shares of the Company's common stock, including 6,327 shares attributable to accrued interest of $71,970 payable as of such date. As of December 31, 2016, the Notes were convertible into 29,768 shares of the Company's common stock, including 5,505 shares attributable to accrued interest of $62,616 payable as of such date.

Note Payable to SY Corporation Co., Ltd.

On June 25, 2012, the Company borrowed 465,000,000 Won (the currency of South Korea, equivalent to approximately $400,000 United States Dollars) from and executed a secured note payable to SY Corporation Co., Ltd., formerly known as Samyang Optics Co. Ltd. ("SY Corporation"), an approximately 20% common stockholder of the Company at that time. SY Corporation was a significant stockholder and a related party at the time of the transaction, but has not been a significant stockholder or related party of the Company subsequent to December 31, 2014. The note accrues simple interest at the rate of 12% per annum and had a maturity date of June 25, 2013. The Company has not made any payments on the promissory note. At June 30, 2013 and subsequently, the promissory note was outstanding and in default, although SY Corporation has not issued a notice of default or a demand for repayment. The Company believes that SY Corporation is in default of its obligations under its January 2012 license agreement, as amended, with the Company, but the Company has not yet issued a notice of default. The Company is continuing efforts towards a comprehensive resolution of the aforementioned matters involving SY Corporation.

The promissory note is secured by collateral that represents a lien on certain patents owned by the Company, including composition of matter patents for certain of the Company's high impact ampakine compounds and the low impact ampakine compounds CX2007 and CX2076, and other related compounds. The security interest does not extend to the Company's patents for its ampakine compounds CX1739 and CX1942, or to the patent for the use of ampakine compounds for the treatment of respiratory depression.

Note payable to SY Corporation consists of the following at March 31, 2017 and December 31, 2016:

	March 31, 2017	December 31, 2016
Principal amount of note payable	$ 399,774	$ 399,774
Accrued interest payable	231,191	219,362
Foreign currency transaction adjustment	(1,707)	(25,129)
	$ 629,258	$ 594,007

Interest expense with respect to this promissory note was $11,829 and $11,961 for three months ended March 31, 2017 and 2016, respectively.

Advances and Notes Payable to Officers

On January 29, 2016, Dr. Arnold S. Lippa, the Company's Chief Scientific Officer and Chairman of the Board of Directors, advanced $52,600 to the Company for working capital purposes under a demand promissory note with interest at 10% per annum. The note was secured by the assets of the Company. In connection with the loan, Dr. Lippa was issued a fully vested warrant to purchase 10,309 shares of the Company's common stock at an exercise price of $5.1025 per share, which was the closing market price of the Company's common stock on the date of grant. The warrant expires on January 29, 2019 and may be exercised on a cashless basis. The aggregate grant date fair value of the warrant, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be $48,245, and was charged to interest expense as additional consideration for the loan during the three months ended March 31, 2016.

On February 2, 2016, Dr. James S. Manuso, the Company's Chief Executive Officer and Vice Chairman of the Board of Directors, advanced $52,600 to the Company for working capital purposes under a demand promissory note with interest at 10% per annum. The note was secured by the assets of the Company. In connection with the loan, Dr. Manuso was issued a fully vested warrant to purchase 8,092 shares of the Company's common stock at an exercise price of $6.5000 per share, which was the closing market price of the Company's common stock on the date of grant. The warrant expires on February 2, 2019 and may be exercised on a cashless basis. The aggregate grant date fair value of the warrant, as calculated pursuant to the Black-Scholes option pricing model, was determined to be $48,392, and was charged to interest expense as additional consideration for the loan during the three months ended March 31, 2016.

On September 22, 2016, Dr. James S. Manuso, the Company's Chief Executive Officer and Vice Chairman of the Board of Directors, advanced $25,000 to the Company for working capital purposes under a demand promissory note with interest at 10% per annum. The note was secured by the assets of the Company. In connection with the loan, Dr. Manuso was issued a fully vested warrant to purchase 5,000 shares of the Company's common stock at an exercise price of $5.0000 per share, which was the closing market price of the Company's common stock on the date of grant. The warrant expires on September 22, 2019 and may be exercised on a cashless basis. The aggregate grant date fair value of the warrant, as calculated pursuant to the Black-Scholes option-pricing model, was determined to be $22,151, and was charged to interest expense as additional consideration for the loan during the year ended December 31, 2016.

On September 23, 2016, Dr. Arnold S. Lippa, the Company's Chief Scientific Officer and Chairman of the Board of Directors, advanced $25,000 to the Company for working capital purposes under a demand promissory note with interest at 10% per annum. The note was secured by the assets of the Company. In connection with the loan, Dr. Lippa was issued a fully vested warrant to purchase 5,155 shares of the Company's common stock at an exercise price of $4.8500 per share, which was the closing market price of the Company's common stock on the date of grant. The warrant expires on September 23, 2019 and may be exercised on a cashless basis. The aggregate grant date fair value of the warrant, as calculated pursuant to the Black-Scholes option pricing model, was determined to be $22,152, and was charged to interest expense as additional consideration for the loan during the year ended December 31, 2016.

During the three months ended March 31, 2017, $3,827 was charged to interest expense in respect to the four officer notes described above. During the three months ended March 31, 2016, $1,729 was charged to interest expense in respect to the two January and February 2016 notes described above.

Other Short-Term Notes Payable

Other short-term notes payable at March 31, 2017 and December 31, 2016 consisted of premium financing agreements with respect to various insurance policies. At March 31, 2017, a premium financing agreement was payable in the amount of $59,857, with interest at 8.765% per annum, in ten monthly installments of $6,229. At December 31, 2016, a premium financing agreement was payable, with interest at 6.21% per annum, in ten monthly installments of $4,116 through January 14, 2017.

6. Settlement and Payment Agreements

On April 8, 2015, the Company entered into a Settlement Agreement with one of its patent law firms to settle amounts due to such firm for services rendered and costs incurred with respect to foreign associates and outside vendors aggregating $194,736. In addition to various other provisions, the Settlement Agreement provides that the Company will have the option to pay for one-half of invoices for future legal services (excluding costs with respect to foreign associates and outside vendors) in the form of stock options. The Settlement Agreement also includes a release of the lien previously filed by the law firm against certain of the Company's patents and patent applications relating to its ampakine technology in the United States Patent and Trademark Office, as well as for mutual releases.

The Company continues to explore ways to reduce its obligations and indebtedness, and might in the future enter into additional settlement and payment agreements.

7. Stockholders' Deficiency

Preferred Stock

The Company has authorized a total of 5,000,000 shares of preferred stock, par value $0.001 per share. As of March 31, 2017 and December 31, 2016, 1,250,000 shares were designated as 9% Cumulative Convertible Preferred Stock (non-voting, "9% Preferred Stock"); 37,500 shares were designated as Series B Convertible Preferred Stock (non-voting, "Series B Preferred Stock"); 205,000 shares were designated as Series A Junior Participating Preferred Stock (non-voting, "Series A Junior Participating Preferred Stock"); and 1,700 shares were designated as Series G 1.5% Convertible Preferred Stock. Accordingly, as of March 31, 2017 and December 31, 2016, 3,505,800 shares of preferred stock were undesignated and may be issued with such rights and powers as the Board of Directors may designate.

There were no shares of 9% Preferred Stock, Series A Junior Participating Preferred Stock, or Series G 1.5% Convertible Preferred Stock outstanding as of March 31, 2017 and December 31, 2016.

Series B Preferred Stock outstanding as of March 31, 2017 and December 31, 2016 consisted of 37,500 shares issued in a May 1991 private placement. Each share of Series B Preferred Stock is convertible into approximately 0.00030 shares of common stock at an effective conversion price of $2,208.375 per share of common stock, which is subject to adjustment under certain circumstances. As of March 31, 2017 and December 31, 2016, the shares of Series B Preferred Stock outstanding are convertible into 11 shares of common stock. The Company may redeem the Series B Preferred Stock for $25,001, equivalent to $0.6667 per share of Series B Preferred Stock, an amount equal to its liquidation preference, at any time upon 30 days prior notice.

Series G 1.5% Convertible Preferred Stock

On March 18, 2014 and April 17, 2014, the Company entered into Securities Purchase Agreements with various accredited investors (the "Initial Purchasers"), pursuant to which the Company sold an aggregate of 928.50 shares of its Series G 1.5% Convertible Preferred Stock for a purchase price of $1,000 per share, or an aggregate purchase price of $928,500.

The Company recorded dividends on the Series G 1.5% Convertible Preferred Stock of $0 and $981 for the three months ended March 31, 2017 and 2016, respectively, which was paid through the issuance of an additional shares of Series G 1.5% Convertible Preferred Stock.

On April 17, 2016, the remaining unconverted 259.7 shares of Series G 1.5% Convertible Preferred Stock outstanding (including accrued but unpaid dividends) were automatically and mandatorily redeemed by conversion into 242,173 newly issued shares of common stock at a conversion price of $1.0725 per share.

Common Stock

On August 16, 2016, at a special meeting of the stockholders of the Company, the stockholders approved an amendment to the Company's Second Restated Certificate of Incorporation (i) to effect, at the discretion of the Company's Board of Directors, a three hundred twenty five-to-one (325-to-1) reverse stock split of all of the outstanding shares of the Company's common stock, par value $0.001 per share, and (ii) to set the number of the Company's authorized shares of stock at 70,000,000 shares, consisting of 65,000,000 shares designated as common stock, par value $0.001 per share, and 5,000,000 shares designated as preferred stock, par value $0.001 per share. On September 1, 2016, the Company filed a Certificate of Amendment to the Company's Second Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect the approved amendment.

Pursuant to the amendment, an aggregate of 191.068 fractional shares resulting from the reverse stock split were not issued, but were to 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 the Company's common stock on the OTCQB for the five trading days immediately before the Certificate of Amendment effecting the reverse stock split was filed with the Delaware Secretary of State ($6.7899 per share, on a post reverse stock split basis) for an aggregate of $1,298.

Unit Exchange Agreements

During April and May 2016, the Company entered into Unit Exchange Agreements with certain warrant holders who had acquired units in connection with the Second Amended and Restated Common Stock and Warrant Purchase Agreement on August 28, 2015, September 28, 2015 or November 2, 2015. The Unit Exchange Agreements provided for the warrant holders to exchange (i) existing warrants to purchase an aggregate of 217,187 shares of the Company's common stock, plus (ii) an aggregate of $529,394 in cash, in return for (i) an aggregate of 108,594 shares of the Company's common stock with a total market price of $728,859 (average $6.7275 per share), and (ii) new warrants to purchase an aggregate of 108,594 shares of the Company's common stock with an exercise price of $4.8750 per share, exercisable for cash or on a cashless basis through the original expiration date of September 30, 2020.

For accounting purposes, for those unit warrant holders accepting the Company's exchange offer, the Company evaluated the fair value of the incremental consideration paid to induce the unit warrant holders to exchange their original warrants for exchanged warrants and determined that the Company did not incur any cost with respect to the exchange transactions. Information with respect to the Black-Scholes variables used in connection with the evaluation of the fair value of the exchange consideration is provided at Note 4.

1st 2016 Unit Offering

On January 8, 2016, the Company initiated a new equity private placement, consisting of units of common stock and warrants, up to an aggregate of $2,500,000, with each unit consisting of (i) one share of common stock, and (ii) one warrant to purchase two additional shares of common stock (the "1 st 2016 Unit Offering"). During the nine months ended September 30, 2016, the Company entered into purchase agreements with nine accredited and four non-accredited, non-affiliated investors, pursuant to which an aggregate of 43,003 shares of common stock and an aggregate of 86,006 warrants were sold, generating gross proceeds of $309,985.

Included in the gross proceeds of $309,985 received was $25,350 received on June 30, 2016 from the sale of 3,517 shares of common stock and an aggregate of 7,034 warrants to an unrelated entity with which the Company simultaneously entered into one-year agreement for investor relations services.

The unit price in the 1 st 2016 Unit Offering was $7.2085. The warrants are exercisable at $7.9300, for each share of common stock to be acquired, and expire on February 28, 2021. The warrants have cashless exercise provisions and contain certain "blocker" provisions limiting the percentage of shares of the Company's common stock that the purchaser can beneficially own upon conversion to not more than 4.99% of the issued and outstanding shares immediately after giving effect to the warrant exercise.

In the case of an acquisition in which the Company is not the surviving entity, the holder of the warrant would receive from any surviving entity or successor to the Company, in exchange for the warrant, a new warrant from the surviving entity or successor to the Company, substantially in the form of the existing warrant and with an exercise price adjusted to reflect the nearest equivalent exercise price of common stock (or other applicable equity interest) of the surviving entity that would reflect the economic value of the warrant, but in the surviving entity.

No registration rights were granted to the purchasers in the private placement with respect to (i) the shares of common stock issued as part of the units, (ii) the warrants, or (iii) the shares of common stock issuable upon exercise of the warrants.

No placement agent fees, brokerage commissions, finder's fees or similar payments were made in the form of cash or warrants to qualified referral sources in connection with the sale of the shares of common stock and warrants. The Company paid $3,429 in cash to other professionals for services related to the seven closings.

2nd 2016 Unit Offering

On December 29, 2016, the Company entered into purchase agreements with certain accredited investors, pursuant to which, the Company sold units in a private placement for aggregate cash consideration of $125,000, with each unit consisting of (i) one share of common stock, and (ii) one warrant to purchase an additional share of common stock. On December 30, 2016, the Company sold additional units to additional investors for aggregate cash consideration of $60,000 in a second and final closing, bringing the total aggregate consideration paid in the private placement to $185,000 through December 31, 2016. On December 31, 2016, the private placement terminated pursuant to its terms. Collectively, this unit offering is referred to herein as the "2 nd 2016 Unit Offering." The price per unit in the initial closing of the 2 nd 2016 Unit Offering was $1.42. The warrants are exercisable until December 31, 2021 and may be exercised at 110% of the per unit price, or $1.562 per share of common stock. The warrants have a cashless exercise provision and certain "blocker" provisions limiting the percentage of shares of common stock of the Company that the purchaser can hold upon exercise. The warrants are also subject to a call by the Company at $0.001 per share upon ten (10) days written notice if the Company's common stock closes at 200% or more of the unit purchase price for any five (5) consecutive trading days. The purchasers were non-affiliated investors. In total, 130,284 shares of common stock were purchased in the private placement, together with warrants to purchase an additional 130,284 shares of Common Stock.

In addition, as set forth in the agreements, each purchaser has the option, but not the obligation, to exchange the entire amount invested in the private placement (but not less than the entire amount), in such purchaser's sole discretion, into any subsequent offering of the Company until the earlier of (i) the completion of subsequent offerings by the Company aggregating at least $15 million of gross proceeds to the Company, or (ii) December 31, 2017. If exchanged, the amount to be invested in a subsequent offering will be 1.2 times the amount of the initial investment in the private placement, or 1.4 times the amount of the initial investment if the Company has entered into financing transactions pursuant to Sections 3(a)(9) or 3(a)(10) of the Securities Act of 1933, as amended, or other financing arrangements that have full-ratchet anti-dilution provisions (i) without a floor, or (ii) with an indeterminate and potentially infinite number of shares issuable pursuant to such provisions. If neither termination condition has been reached, and the Company has more than one subsequent offering, the purchaser may elect to exchange into any subsequent offering, regardless of whether such purchaser has already exchanged into a subsequent offering; provided, however, that the amount invested in such subsequent offering will only and always be 1.2 (or 1.4, as applicable) times the amount of the initial investment.

In the case of an acquisition, as defined in the agreement, a) in which the Company is not the surviving entity, the holder of each warrant would receive from any surviving entity or successor to the Company, in exchange for such warrant, a new warrant from the surviving entity or successor to the Company, substantially in the form of the existing warrant and with an exercise price adjusted to reflect the nearest equivalent exercise price of common stock (or other applicable equity interest) of the surviving entity that would reflect the economic value of the warrant, but in the surviving entity.

Unlimited piggy-back registration rights have been granted with respect to the common stock, and the common stock underlying the warrants, unless such common stock is eligible to be sold without volume limits under an exemption from registration under any rule or regulation of the SEC that permits the holder to sell securities of the Company to the public without registration.

The Company is obligated to pay placement agent fees, brokerage commissions, finder's fees or similar payments totaling up to $13,875 to an unaffiliated qualified referral source as well as warrants up to 7.5% of number of units sold in the private placement. The Company paid $4,000 in cash to other professionals for services related to the closings.

The shares of common stock and warrants were offered and sold without registration under the Securities Act in reliance on the exemptions provided by Section 4(a)(2) of the Securities Act as provided in Rule 506(b) of Regulation D promulgated thereunder. None of the shares of common stock issued as part of the units, the warrants, the common stock issuable upon exercise of the warrants or any warrants issued to a qualified referral source have been registered under the Securities Act or any other applicable securities laws, and unless so registered, may not be offered or sold in the United States except pursuant to an exemption from the registration requirements of the Securities Act.

The Company evaluated whether the warrants or the exchange rights met criteria to be accounted for as a derivative in accordance with Accounting Standard Codification (ASC) 815, and determined that the derivative criteria were not met. Therefore, the Company determined no bifurcation and separate valuation was necessary and the warrants and exchange right should be accounted for with the host instrument. The Company then looked to how the host instrument should be classified and determined that it cannot be classified as permanent equity as there is a potential that the Unit investment amount could be exchanged for debt (convertible or otherwise) or for redeemable preferred stock. Since the exchange right expires within one year, the Company concluded that the Unit investment would be appropriately classified as a current liability.

2017 Unit Offering

On March 10, 2017 and March 28, 2017, the Company sold units to investors for aggregate gross proceeds of $350,000, with each unit consisting of one share of the Company's common stock and one common stock purchase warrant to purchase one share of the Company's common stock (the "2017 Unit Offering"). Units were sold for $2.50 per unit and the warrants issued in connection with the units are exercisable at a fixed price $2.75 per share of the Company's common stock. The warrants contain a cashless exercise provision and certain blocker provisions preventing exercise during periods of time when the investor would beneficially own more than 4.99% of the Company's outstanding shares of common stock if such exercise were to occur. The warrants are also subject to redemption by the Company at $0.001 per share upon ten (10) days written notice if the Company's common stock closes at 200% or more of the unit purchase price for any five (5) consecutive trading days. Investors were non-affiliated purchasers. Investors received an unlimited number of piggy-back registration rights. Investors received an unlimited number of exchange rights, which are options and not obligations, to exchange such investor's entire investment (and not less than the entire investment) into one or more subsequent equity financings (consisting solely of convertible preferred stock or common stock or units containing preferred stock or common stock and warrants exercisable only into preferred stock or common stock) that would be considered as "permanent equity" under United States Generally Accepted Accounting Principles and the rules and regulations of the United States Securities and Exchange Commission, and therefore classified as stockholders' equity, and excluding any form of debt or convertible debt (each such financing a "Subsequent Equity Financing"). These exchange rights are effective until the earlier of: (i) the completion of any number of subsequent financings aggregating at least $15 million gross proceeds to the Company, or (ii) December 30, 2017. The dollar amount used to determine the amount invested or exchanged into the subsequent financing will be 1.2 times the amount of the original investment. Under certain circumstances, the ratio may be 1.4 instead of 1.2. The exchange right does not permit the investors to exchange into a debt offering or redeemable preferred stock, therefore, unlike the 2 nd 2016 Unit Offering, the 2017 Unit Offering resulted in the issuance of permanent equity. The Company evaluated whether the warrants or the exchange rights met criteria to be accounted for as a derivative in accordance with Accounting Standard Codification (ASC) 815, and determined that the derivative criteria were not met. Therefore, the Company determined no bifurcation and separate valuation was necessary and the warrants and exchange right should be accounted for with the host instrument. In connection with this transaction, Aurora served as a placement agent and earned $20,000 of cash fees and 8,000 placement agent common stock warrants associated with the closing of 2017 Unit Offering. The cash fees were unpaid as of March 31, 2017 and have been included in accounts payable and accrued expenses and charged against Additional paid-in capital as of March 31, 2017. The placement agent common stock warrants were valued at $27,648 and were accounted for in Additional paid-in capital as of March 31, 2017. For additional information see Note 8.

The closing market prices of the Company's common stock on March 10, 2017 and March 28, 2017 were $4.05 and $3.80 respectively.

Information with respect to the issuance of common stock in connection with the settlement of debt obligations is provided at Note 5.

Common Stock Warrants

Information with respect to the issuance and exercise of common stock purchase warrants in connection with the Convertible Note Payable and Warrant Purchase Agreement, and Notes Payable to Officers, is provided at Note 5.

A summary of warrant activity for the three months ended March 31, 2017 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Warrants outstanding at December 31, 2016	540,198	$ 4.84842	
Issued	148,000	2.75000	
Warrants outstanding at March 31, 2017	688,198	$ 4.39715	4.11
Warrants exercisable at December 31, 2016	540,198	$ 4.84842	3.93
Warrants exercisable at March 31, 2017	688,198	$ 4.39715	4.11

The exercise prices of common stock warrants outstanding and exercisable are as follows at March 31, 2017:

Exercise Price	Warrants Outstanding (Shares)	Warrants Exercisable (Shares)	Expiration Date
$ 1.2870	41,002	41,002	April 17, 2019
$ 1.5620	130,284	130,284	December 31, 2021
$ 4.8500	5,155	5,155	September 23, 2019
$ 4.8750	108,594	108,594	September 30, 2020
$ 5.0000	5,000	5,000	September 22, 2019
$ 5.1025	10,309	10,309	January 29, 2019
$ 6.5000	8,092	8,092	February 4, 2019
$ 6.8348	145,758	145,758	September 30, 2020
$ 7.9300	86,004	86,004	February 28, 2021
$ 2.7500	148,000	148,000	December 31, 2021
	688,198	688,198	

Based on a fair market value of $3.8000 per share on March 31, 2017, the intrinsic value of exercisable in-the-money common stock warrants was $550,014 as of March 31, 2017.

A summary of warrant activity for the three months ended March 31, 2016 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Warrants outstanding at December 31, 2015	482,288	$ 7.10125	
Issued	72,403	7.36775	
Warrants outstanding at March 31, 2016	554,691	$ 7.13604	3.93
Warrants exercisable at December 31, 2015	482,288	$ 7.10125	
Warrants exercisable at March 31, 2016	554,691	$ 7.13604	3.93

Based on a fair market value of $7.3775 per share on March 31, 2016, the intrinsic value of exercisable in-the-money common stock warrants was $477,262 as of March 31, 2016.

Stock Options

In connection with the initial closing of the Series G Private Placement completed on March 18, 2014, the stockholders of the Company holding a majority of the votes to be cast on the issue approved the adoption of the Company's 2014 Equity, Equity-Linked and Equity Derivative Incentive Plan (the "2014 Plan"), which had been previously adopted by the Board of Directors of the Company, subject to stockholder approval. The Plan permits the grant of options and restricted stock with respect to up to 325,025 shares of common stock, in addition to stock appreciation rights and phantom stock, to directors, officers, employees, consultants and other service providers of the Company.

On June 30, 2015, the Board of Directors adopted the 2015 Stock and Stock Option Plan (the "2015 Plan"). The 2015 Plan initially provided for, among other things, the issuance of either or any combination of restricted shares of common stock and non-qualified stock options to purchase up to 461,538 shares of the Company's common stock for periods up to ten years to management, members of the Board of Directors, consultants and advisors. The Company has not and does not intend to present the 2015 Plan to stockholders for approval. On August 18, 2015, the Board of Directors increased the number of shares that may be issued under the 2015 Plan to 769,231 shares of the Company's common stock. On March 31, 2016, the Board of Directors further increased the number of shares that may be issued under the 2015 Plan to 1,538,461 shares of the Company's common stock. On January 17, 2017, the Board of Directors further increased the number of shares that may be issued under the 2015 Plan to 3,038,461 shares of the Company's common stock.

On March 31, 2016, the Board of Directors of the Company awarded stock options for a total of 523,075 shares of common stock in various quantities to twelve individuals who are members of management, the Company's Scientific Advisory Board, independent members of the Board of Directors, or outside service providers pursuant to the Company's 2015 Plan. The stock options vested 25% on each of March 31, 2016, June 30, 2016, September 30, 2016 and 25% on December 31, 2016, and will expire on March 31, 2021. The exercise price of the stock options was established on the grant date at $7.3775 per share, which was the closing market price of the Company's common stock on such date. The aggregate grant date fair value of these stock options, as calculated pursuant to the Black-Scholes option-pricing model, was $3,774,000. During the quarter ended March 31, 2016, the Company recorded a charge to operations of $ 951,855 with respect to these stock options.

On September 12, 2016, the Company entered into an agreement for consulting services, which provided for the payment of a fee through the granting of a non-qualified stock option to purchase a total of 2,608 shares of common stock pursuant to the Company's 2015 Plan. The stock option was fully vested on the date of grant and will expire on September 12, 2021. The exercise price of the stock option was established on the grant date at $5.7500 per share, which was the closing market price of the Company's common stock on the date of grant. The aggregate grant date fair value of the stock option, calculated pursuant to the Black-Scholes option-pricing model, was $14,384, which was charged to operations on the date of grant.

Information with respect to the Black-Scholes variables used in connection with the evaluation of the fair value of stock-based compensation is provided at Note 4.

A summary of stock option activity for the three months ended March 31, 2017 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Options outstanding at December 31, 2016	1,307,749	$ 7.6515	
Granted	395,000	3.9000	
Expired	-	-	
Forfeited	-	-	
Options outstanding at March 31, 2017	1,702,749	$ 6.7812	5.23
Options exercisable at December 31, 2016	1,307,749	$ 7.6515	
Options exercisable at March 31, 2017	1,505,249	$ 7.1593	5.27

There was $509,726 and $0 of deferred compensation expense for outstanding and unvested stock options at March 31, 2017 and December 31, 2016, respectively.

The exercise prices of common stock options outstanding and exercisable were as follows at March 31, 2017:

Exercise Price	Options Outstanding (Shares)	Options Exercisable (Shares)	Expiration Date
$ 3.9000	395,000	197,500	January 17, 2022
$ 4.5000	7,222	7,222	September 2, 2021
$ 5.6875	89,686	89,686	June 30, 2020
$ 5.7500	2,608	2,608	September 12, 2021
$ 6.4025	27,692	27,692	August 18, 2020
$ 6.4025	129,231	129,231	August 18, 2022
$ 6.4025	261,789	261,789	August 18, 2025
$ 6.8250	8,791	8,791	December 11, 2020
$ 7.3775	523,077	523,077	March 31, 2021
$ 8.1250	169,231	169,231	June 30, 2022
$ 13.0000	7,385	7,385	March 13, 2019
$ 13.0000	3,846	3,846	April 14, 2019
$ 13.9750	3,385	3,385	March 14, 2024
$ 15.4700	7,755	7,755	April 8, 2020
$ 15.9250	2,462	2,462	February 28, 2024
$ 16.0500	46,154	46,154	July 17, 2019
$ 16.6400	1,538	1,538	January 29, 2020
$ 19.5000	9,487	9,487	July 17, 2022
$ 19.5000	6,410	6,410	August 10, 2022
	1,702,749	1,505,249	

Based on a fair market value of $3.8000 per share on March 31, 2017, there were no exercisable in-the-money common stock options as of March 31, 2017.

A summary of stock option activity for the three months ended March 31, 2016 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Options outstanding at December 31, 2015	774,842	$ 7.8325	
Granted	523,077	7.3775	
Expired	-	-	
Forfeited	-	-	
Options outstanding at March 31, 2016	1,297,919	$ 7.6492	6.21
Options exercisable at March 31, 2016	762,855	$ 8.0275	
Options exercisable at December 31, 2015	519,662	$ 8.5150	6.57

The exercise prices of common stock options outstanding and exercisable were as follows at March 31, 2016:

Exercise Price	Options Outstanding (Shares)	Options Exercisable (Shares)	Expiration Date
$ 5.6875	89,686	89,686	June 30, 2020
$ 6.4025	27,692	13,846	August 18, 2020
$ 6.4025	129,231	64,615	August 18, 2022
$ 6.4025	261,789	196,341	August 18, 2025
$ 6.8250	8,791	8,791	December 11, 2020
$ 7.3775	523,077	131,923	March 31, 2021
$ 8.1250	169,231	169,231	June 30, 2022
$ 13.0000	7,385	7,385	March 13, 2019
$ 13.0000	3,846	3,846	April 14, 2019
$ 13.9750	3,385	3,385	March 14, 2024
$ 15.4700	7,755	7,755	April 8, 2020
$ 15.9250	2,462	2,462	February 28, 2024
$ 16.2500	46,154	46,154	July 17, 2019
$ 16.6400	1,538	1,538	January 29, 2020
$ 19.5000	9,487	9,487	July 17, 2022
$ 19.500	6,410	6,410	August 10, 2022
	1,297,919	762,855	

Based on a fair market value of $7.3775 per share on March 31, 2016, the intrinsic value of exercisable in-the-money common stock options was $424,360 as of March 31, 2016.

For the three months ended March 31, 2017 and 2016, stock-based compensation costs included in the condensed consolidated statements of operations consisted of general and administrative expenses of $494,904 and $1,030,831, respectively, and research and development expenses of $226,138 and $440,540, respectively.

Pier Contingent Stock Consideration

In connection with the merger transaction with Pier effective August 10, 2012, RespireRx issued 179,747 newly issued shares of its common stock with an aggregate fair value of $3,271,402 ($18.2000 per share), based upon the closing price of RespireRx's common stock on August 10, 2012. The shares of common stock were distributed to stockholders, convertible note holders, warrant holders, option holders, and certain employees and vendors of Pier in satisfaction of their interests and claims. The common stock issued by RespireRx represented approximately 41% of the 443,205 common shares outstanding immediately following the closing of the transaction.

Pursuant to the terms of the transaction, RespireRx agreed to issue additional contingent consideration, consisting of up to 56,351 shares of common stock, to Pier's former security holders and certain other creditors and service providers (the "Pier Stock Recipients") that received RespireRx's common stock as part of the Pier transaction if certain of RespireRx's stock options and warrants outstanding immediately prior to the closing of the merger were subsequently exercised. In the event that such contingent shares were issued, the ownership percentage of the Pier Stock Recipients, following their receipt of such additional shares, could not exceed their ownership percentage as of the initial transaction date.

The stock options and warrants outstanding at June 30, 2012 were all out-of-the-money on August 10, 2012. During late July and early August 2012, shortly before completion of the merger, the Company issued options to officers and directors at that time to purchase a total of 22,651 shares of common stock exercisable for ten years at $19.5000 per share. By October 1, 2012, these options, as well as the options and warrants outstanding at June 30, 2012, were also out-of-the-money and continued to be out-of-the-money through March 31, 2017.

There were no stock options or warrants exercised subsequent to August 10, 2012 that triggered additional contingent consideration, and the only remaining stock options outstanding that could still trigger the additional contingent consideration remained out-of-the-money through March 31, 2017. As of March 31, 2017, due to the expirations and forfeitures of RespireRx stock options and warrants occurring since August 10, 2012, 6,497 contingent shares of common stock remained issuable under the Pier merger agreement.

The Company concluded that the issuance of any of the contingent shares to the Pier Stock Recipients was remote, as a result of the large spread between the exercise prices of these stock options and warrants as compared to the common stock trading range, the subsequent expiration or forfeiture of most of the options and warrants, the Company's distressed financial condition and capital requirements, and that these stock options and warrants have remained significantly out-of-the-money through March 31, 2017. Accordingly, the Company considered the fair value of the contingent consideration to be immaterial and therefore did not ascribe any value to such contingent consideration. If any such shares are ultimately issued to the former Pier stockholders, the Company will recognize the fair value of such shares as a charge to operations at that time.

Reserved and Unreserved Shares of Common Stock

On January 17, 2017, the Board of Directors of the Company approved the adoption of the Amendment of the Amended and Restated RespireRx Pharmaceuticals, Inc. 2015 Stock and Stock Option Plan (the "2015 Plan"). The Amendment increases the shares issuable under the plan by 1,500,000, from 1,538,461 to 3,038,461. Other than the change in the number of shares available under the 2015 Plan, no other changes were made to the 2015 Plan by the Amendment.

At March 31, 2017, the Company had 65,000,000 shares of common stock authorized and 2,289,045 shares of common stock issued and outstanding. Furthermore, as of March 31, 2017, the Company had reserved an aggregate of 11 shares for issuance upon conversion of the Series B Preferred Stock; 688,199 shares for issuance upon exercise of warrants; 1,702,749 shares for issuance upon exercise of outstanding stock options (inclusive of 197,500 options not yet vested as of March 31, 2017 that vest on June 30, 2017); 63,236 shares to cover equity grants available for future issuance pursuant to the 2014 Plan; 1,397,201 shares to cover equity grants available for future issuance pursuant to the 2015 Plan; 30,596 shares for issuance upon conversion of the Convertible Notes; and 6,497 shares issuable as contingent shares pursuant to the Pier merger. Accordingly, as of March 31, 2017, the Company had an aggregate of 3,888,489 shares of common stock reserved for issuance and 58,822,466 shares of common stock unreserved and available for future issuance. The Company expects to satisfy its future common stock commitments through the issuance of authorized but unissued shares of common stock.

8. Related Party Transactions

Dr. Arnold S. Lippa and Jeff E. Margolis, officers and directors of the Company since March 22, 2013, have indirect ownership interests and managing memberships in Aurora Capital LLC ("Aurora") through interests held in its members, and Jeff. E. Margolis is also an officer of Aurora. Aurora is a boutique investment banking firm specializing in the life sciences sector that is also a full service brokerage firm.

On March 31, 2013, the Company accrued $85,000 as reimbursement for legal fees incurred by Aurora in conjunction with the removal of the Company's prior Board of Directors on March 22, 2013, which amount has been included in accounts payable and accrued expenses at March 31, 2017 and December 31, 2016.

On June 30, 2015, the Board of Directors of the Company awarded, but did not pay, cash bonuses totaling $215,000, including an aggregate of $195,000 to certain of the Company's executive officers and an aggregate of $20,000 to the independent members of the Company's Board of Directors. The cash bonuses awarded to executive officers were as follows: Dr. Arnold S. Lippa - $75,000; Jeff E. Margolis - $60,000; and Robert N. Weingarten (resigned as an officer and director of the Company in February 2017, but remains a consultant to the Company) - $60,000. The cash bonuses awarded to the two independent members of the Company's Board of Directors were as follows: James E. Sapirstein - $10,000; and Kathryn MacFarlane - $10,000. The cash bonuses were awarded as partial compensation for services rendered by such persons from January 1, 2015 through June 30, 2015, and are included in accrued compensation and related expenses in the Company's consolidated balance sheet at March 31, 2017 and December 31, 2016.

On June 30, 2015, the Board of Directors also established cash compensation arrangements for certain of the Company's executive officers at the following monthly rates: Dr. Arnold S. Lippa - $12,500; Jeff E. Margolis - $10,000; and Robert N. Weingarten (resigned as an officer and director of the Company in February 2017, but remains a consultant to the Company) - $10,000. In addition, the Company established quarterly cash board fees for the two independent members of the Company's Board of Directors as follows: James E. Sapirstein - $5,000; and Kathryn MacFarlane - $5,000. This compensation was payable in arrears and commenced on July 1, 2015. These compensation arrangements have been extended through December 31, 2017. On August 18, 2015, the cash compensation arrangements for these executive officers were further revised as described below in Note 9.

Both the cash bonuses and the cash monthly compensation were accrued and will not paid until such time as the Board of Directors of the Company determines that sufficient capital has been raised by the Company or is otherwise available to fund the Company's operations on an ongoing basis.

On March 28, 2017, Aurora earned $20,000 of cash fees and 8,000 placement agent common stock warrants associated with the closing of 2017 Unit Offering. The cash fees were unpaid as of March 31, 2017 and have been included in accounts payable and accrued expenses and charged against Additional paid-in capital as of March 31, 2017. The placement agent common stock warrants were valued at $27,648 and were accounted for in Additional paid-in capital as of March 31, 2017.

A description of advances and notes payable to officers is provided at Note 5.

9. Commitments and Contingencies

Pending or Threatened Legal Actions and Claims

By letter dated November 11, 2014, a former director of the Company, who joined the Company's Board of Directors on August 10, 2012 in conjunction with the Pier transaction and who resigned from the Company's Board of Directors on September 28, 2012, asserted a claim for unpaid consulting compensation of $24,000. The Company has not received any further communications from the former director with respect to this matter.

By letter dated February 5, 2016, the Company received a demand from a law firm representing a professional services vendor of the Company alleging an amount due and owing for unpaid services rendered. On January 18, 2017, following an arbitration proceeding, an arbitrator awarded the vendor the full amount sought in arbitration of $146,082. Additionally, the arbitrator granted the vendor attorneys' fees and costs of $47,930. All such amounts had been accrued at March 31, 2017 and December 31, 2016.

By e-mail dated July 21, 2016, the Company received a demand from an investment banking consulting firm that represented the Company in 2012 in conjunction with the Pier transaction alleging that $225,000 is due and owing for unpaid investment banking services rendered. The Company has been in discussions with this firm regarding this matter.

The Company is periodically the subject of various pending and threatened legal actions and claims. In the opinion of management of the Company, adequate provision has been made in the Company's condensed consolidated financial statements at March 31, 2017 and December 31, 2016 with respect to such matters, including, specifically, the matters noted above. The Company intends to vigorously defend itself if any of the matters described above results in the filing of a lawsuit or formal claim.

Significant Agreements and Contracts

Consulting Agreement

Richard Purcell was appointed as the Company's Senior Vice President of Research and Development effective October 15, 2014. Mr. Purcell provides his services to the Company on a month-to-month basis through his consulting firm, DNA Healthlink, Inc., through which the Company has contracted for his services, for a monthly cash fee of $12,500. Additional information with respect to shares of common stock issued to Mr. Purcell is provided at Note 7. Cash compensation expense pursuant to this agreement totaled $37,500 for the three months ended March 31, 2017 and 2016, which is included in research and development expenses in the Company's condensed consolidated statements of operations for such periods.

Employment Agreements

On August 18, 2015, the Company entered into an employment agreement with Dr. James S. Manuso, Ph.D., to be its new President and Chief Executive Officer. Pursuant to the agreement, which is for an initial term through September 30, 2018 (and which will be deemed to be automatically extended, upon the same terms and conditions, for successive periods of one year, unless either party provides written notice of its intention not to extend the term of the agreement at least 90 days prior to the applicable renewal date), Dr. Manuso received an annual base salary of $375,000. Dr. Manuso is also eligible to earn a performance-based annual bonus award of up to 50% of his base salary, based upon the achievement of annual performance goals established by the Board of Directors in consultation with the executive prior to the start of such fiscal year, or any amount at the discretion of the Board of Directors. Additionally, Dr. Manuso was granted stock options to acquire 261,789 shares of common stock of the Company and is eligible to receive additional awards under the Company's Plans in the discretion of the Board of Directors. Dr. Manuso is also entitled to receive, until such time as the Company establishes a group health plan for its employees, $1,200 per month, on a tax-equalized basis, as additional compensation to cover the cost of health coverage and up to $1,000 per month, on a tax-equalized basis, as additional compensation for a term life insurance policy and disability insurance policy. Dr. Manuso is also entitled to be reimbursed for business expenses. Additional information with respect to the stock options granted to Dr. Manuso is provided at Note 7. Cash compensation accrued pursuant to this agreement totaled $103,650 for the three months ended March 31, 2017, and $110,400 for the three months ended March 31, 2016. Such amounts are included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, respectively, and in general and administrative expenses in the Company's condensed consolidated statement of operations for the three months ended March 31, 2017 and 2016. Dr. Manuso was also appointed to the Company's Board of Directors and elected as Vice Chairman of the Board of Directors. Dr. Manuso will not receive any additional compensation for serving as Vice Chairman and on the Board of Director. Such amounts have not been paid to Dr. Manuso.

On August 18, 2015, concurrently with the hiring of Dr. James S. Manuso as the Company's new President and Chief Executive Officer, Dr. Arnold S. Lippa resigned as the Company's President and Chief Executive Officer. Dr. Lippa continues to serve as the Company's Executive Chairman and as a member of the Board of Directors. Also on August 18, 2015, Dr. Lippa was named Chief Scientific Officer of the Company, and the Company entered into an employment agreement with Dr. Lippa in that capacity. Pursuant to the agreement, which is for an initial term through September 30, 2018 (and which will be deemed to be automatically extended, upon the same terms and conditions, for successive periods of one year, unless either party provides written notice of its intention not to extend the term of the agreement at least 90 days prior to the applicable renewal date), Dr. Lippa received an annual base salary of $300,000. Dr. Lippa is also eligible to earn a performance-based annual bonus award of up to 50% of his base salary, based upon the achievement of annual performance goals established by the Board of Directors in consultation with the executive prior to the start of such fiscal year, or any amount at the discretion of the Board of Directors. Additionally, Dr. Lippa was granted stock options to acquire 30,769 shares of common stock of the Company and is eligible to receive additional awards under the Company's Plans at the discretion of the Board of Directors. Dr. Lippa is also entitled to receive, until such time as the Company establishes a group health plan for its employees, $1,200 per month, on a tax-equalized basis, as additional compensation to cover the cost of health coverage and up to $1,000 per month, on a tax-equalized basis, as reimbursement for a term life insurance policy and disability insurance policy. Dr. Lippa is also entitled to be reimbursed for business expenses. Additional information with respect to the stock options granted to Dr. Lippa is provided at Note 7. Cash compensation accrued pursuant to this agreement totaled $84,900 for the three months ended March 31, 2017 and $80,400 for the three months ended March 31, 2016, respectively, which is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in research and development expenses in the Company's condensed consolidated statement of operations. Cash compensation accrued to Dr. Lippa for bonuses and under a prior superseded arrangement, while still serving as the Company's President and Chief Executive Officer, totaled $94,758 and is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in general and administrative expenses in the Company's condensed consolidated statement of operations. Such amounts have not been paid to Dr. Lippa. Dr. Lippa does not receive any additional compensation for serving as Executive Chairman and on the Board of Directors.

On August 18, 2015, the Company also entered into employment agreements with Jeff E. Margolis, in his continuing role as Vice President, Secretary and Treasurer, and Robert N. Weingarten, in his continuing role as Vice President and Chief Financial Officer, the position from which he resigned in February 2017. Mr. Weingarten remains a consultant to the Company. Pursuant to the agreements, which are for initial terms through September 30, 2016 (and which, for Mr. Margolis, will be deemed to be automatically extended upon the same terms and conditions, for successive periods of one year, unless either party provides written notice of its intention not to extend the term of the agreement at least 90 days prior to the applicable renewal date), Mr. Margolis and Mr. Weingarten, until his resignation, each received an annual base salary of $195,000, and since Mr. Weingarten's resignation, only Mr. Margolis is eligible to receive performance-based annual bonus awards ranging from $65,000 to $125,000, based upon the achievement of annual performance goals established by the Board of Directors in consultation with the executive prior to the start of such fiscal year, or any amount at the discretion of the Board of Directors. Additionally, Mr. Margolis and Mr. Weingarten were each granted stock options to acquire 30,769 shares of common stock of the Company and both are eligible to receive additional awards under the Company's Plans at the discretion of the Board of Directors. Mr. Weingarten remains eligible for additional awards as he remains a consultant to the Company. Mr. Margolis and Mr. Weingarten (until his resignation), are/were also each entitled to receive, until such time as the Company establishes a group health plan for its employees, $1,200 per month, on a tax-equalized basis, as additional compensation to cover the cost of health coverage and up to $1,000 per month, on a tax-equalized basis, as reimbursement for a term life insurance policy and disability insurance policy. Both Mr. Margolis and Mr. Weingarten are also each entitled to be reimbursed for business expenses. Additional information with respect to the stock options granted to Mr. Margolis and Mr. Weingarten is provided at Note 7. Cash compensation accrued pursuant to these agreements were $54,150 for Mr. Margolis for the three months ended March 31, 2017 and 2016 and were $28,524 for Mr. Weingarten for the three months ended March 31, 2017 and $54,150 for the three months ended March 31, 2016, which is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in general and administrative expenses in the Company's condensed consolidated statement of operations. Cash compensation accrued to Mr. Margolis and Mr. Weingarten for bonuses and under prior superseded arrangements totaled $151,612 ($75,806 each) and is also included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in general and administrative expenses in the Company's condensed consolidated statement of operations. Such amounts have not been paid to Mr. Margolis or Mr. Weingarten. Mr. Margolis also continues to serve as a Director of the Company, but does not receive any additional compensation for serving on the Board of Directors.

The employment agreements between the Company and each of Dr. Manuso, Dr. Lippa, Mr. Margolis and Mr. Weingarten, respectively, provided that the payment obligations associated with the first year base salary were to accrue, but no payments were to be made, until at least $2,000,000 of net proceeds from any offering or financing of debt or equity, or a combination thereof, was received by the Company, at which time scheduled payments were to commence. As this financing milestone has not been achieved, Dr. Manuso, Dr. Lippa, Mr. Margolis and Mr. Weingarten (who are each also directors of the Company) have each agreed, effective as of August 11, 2016, to continue to defer the payment of such amounts indefinitely, until such time as the Board of Directors of the Company determines that sufficient capital has been raised by the Company or is otherwise available to fund the Company's operations on an ongoing basis.

University of California, Irvine License Agreements

The Company entered into a series of license agreements in 1993 and 1998 with the University of California, Irvine ("UCI") that granted the Company proprietary rights to certain chemical compounds that acted as ampakines and to their therapeutic uses. These agreements granted the Company, among other provisions, exclusive rights: (i) to practice certain patents and patent applications, as defined in the license agreement, that were then held by UCI; (ii) to identify, develop, make, have made, import, export, lease, sell, have sold or offer for sale any related licensed products; and (iii) to grant sub-licenses of the rights granted in the license agreements, subject to the provisions of the license agreements. The Company was required, among other terms and conditions, to pay UCI a license fee, royalties, patent costs and certain additional payments.

Under such license agreements, the Company was required to make minimum annual royalty payments of approximately $70,000. The Company was also required to spend a minimum of $250,000 per year to advance the ampakine compounds until the Company began to market an ampakine compound. The commercialization provisions in the agreements with UCI required the Company to file for regulatory approval of an ampakine compound before October 2012. In March 2011, UCI agreed to extend the required date for filing regulatory approval of an ampakine compound to October 2015. During December 2012, the Company informed UCI that it would be unable to make the annual payment due to a lack of funds. The Company believes that this notice, along with its subsequent failure to make its minimum annual payment obligation, constituted a default and termination of the license agreements.

On April 15, 2013, the Company received a letter from UCI indicating that the license agreements between UCI and the Company had been terminated due to the Company's failure to make certain payments required to maintain the agreements. Since the patents covered in these license agreements had begun to expire and the therapeutic uses described in these patents were no longer germane to the Company's new focus on respiratory disorders, the loss of these license agreements is not expected to have a material impact on the Company's current drug development programs. In the opinion of management, the Company has made adequate provision for any liability relating to this matter in its consolidated financial statements at March 31, 2017 and December 31, 2016.

University of Alberta License Agreement

On May 8, 2007, the Company entered into a license agreement, as amended, with the University of Alberta granting the Company exclusive rights to practice patents held by the University of Alberta claiming the use of ampakines for the treatment of various respiratory disorders. The Company agreed to pay the University of Alberta a licensing fee and a patent issuance fee, which were paid, and prospective payments consisting of a royalty on net sales, sublicense fee payments, maintenance payments and milestone payments. The prospective maintenance payments commence on the enrollment of the first patient into the first Phase 2B clinical trial and increase upon the successful completion of the Phase 2B clinical trial. As the Company does not at this time anticipate scheduling a Phase 2B clinical trial in the near term, no maintenance payments to the University of Alberta are currently due and payable, nor are any maintenance payments expected to be due in the near future in connection with the license agreement.

Transactions with Biovail Laboratories International SRL

In March 2010, the Company entered into an asset purchase agreement with Biovail Laboratories International SRL ("Biovail"). Pursuant to the asset purchase agreement, Biovail acquired the Company's interests in CX717, CX1763, CX1942 and the injectable dosage form of CX1739, as well as certain of its other ampakine compounds and related intellectual property for use in the field of respiratory depression or vaso-occlusive crises associated with sickle cell disease. The agreement provided the Company with the right to receive milestone payments in an aggregate amount of up to $15,000,000 plus the reimbursement of certain related expenses, conditioned upon the occurrence of particular events relating to the clinical development of certain assets that Biovail acquired. None of these events occurred.

As part of the transaction, Biovail licensed back to the Company certain exclusive and irrevocable rights to some acquired ampakine compounds, other than CX717, an injectable dosage form of CX1739, CX1763 and CX1942, for use outside of the field of respiratory depression or vaso-occlusive crises associated with sickle cell disease. Accordingly, following the transaction with Biovail, the Company retained its rights to develop and commercialize the non-acquired ampakine compounds as a potential treatment for neurological diseases and psychiatric disorders. Additionally, the Company retained its rights to develop and commercialize the ampakine compounds as a potential treatment for sleep apnea disorders, including an oral dosage form of ampakine CX1739.

In September 2010, Biovail's parent corporation, Biovail Corporation, combined with Valeant Pharmaceuticals International in a merger transaction and the combined company was renamed "Valeant Pharmaceuticals International, Inc." ("Valeant"). Following the merger, Valeant and Biovail conducted a strategic and financial review of their product pipeline and, as a result, in November 2010, Biovail announced its intent to exit from the respiratory depression project acquired from the Company in March 2010.

Following that announcement, the Company entered into discussions with Biovail regarding the future of the respiratory depression project. In March 2011, the Company entered into a new agreement with Biovail to reacquire the ampakine compounds, patents and rights that Biovail had acquired from the Company in March 2010. The new agreement provided for potential future payments of up to $15,150,000 by the Company based upon the achievement of certain developments, including new drug application submissions and approval milestones. Biovail is also eligible to receive additional payments of up to $15,000,000 from the Company based upon the Company's net sales of an intravenous dosage form of the compounds for respiratory depression.

At any time following the completion of Phase 1 clinical studies and prior to the end of Phase 2A clinical studies, Biovail retains an option to co-develop and co-market intravenous dosage forms of an ampakine compound as a treatment for respiratory depression and vaso-occlusive crises associated with sickle cell disease. In such an event, the Company would be reimbursed for certain development expenses to date and Biovail would share in all such future development costs with the Company. If Biovail makes the co-marketing election, the Company would owe no further milestone payments to Biovail and the Company would be eligible to receive a royalty on net sales of the compound by Biovail or its affiliates and licensees.

University of Illinois 2014 Exclusive License Agreement

On June 27, 2014, the Company entered into an Exclusive License Agreement (the "2014 License Agreement") with the University of Illinois, the material terms of which were similar to a License Agreement between the parties that had been previously terminated on March 21, 2013. The 2014 License Agreement became effective on September 18, 2014, upon the completion of certain conditions set forth in the 2014 License Agreement, including: (i) the payment by the Company of a $25,000 licensing fee, (ii) the payment by the Company of outstanding patent costs aggregating $15,840, and (iii) the assignment to the University of Illinois of rights the Company held in certain patent applications, all of which conditions were fulfilled.

The 2014 License Agreement granted the Company (i) exclusive rights to several issued and pending patents in numerous jurisdictions and (ii) the non-exclusive right to certain technical information that is generated by the University of Illinois in connection with certain clinical trials as specified in the 2014 License Agreement, all of which relate to the use of cannabinoids for the treatment of sleep related breathing disorders. The Company is developing dronabinol (Δ9-tetrahydrocannabinol), a cannabinoid, for the treatment of OSA, the most common form of sleep apnea.

The 2014 License Agreement provides for various commercialization and reporting requirements commencing on June 30, 2015 and also requires the Company to pay the University of Illinois a license fee, royalties, patent costs and certain milestone payments. The 2014 License Agreement provides for various royalty payments by the Company, including a royalty on net sales of 4%, payment on sub-licensee revenues of 12.5%, and a minimum annual royalty of $100,000 beginning in 2015, which is due and payable on December 31 of each year. The 2015 minimum annual royalty of $100,000 was paid as scheduled in December 2015, and the 2016 minimum annual royalty of $100,000 was paid as scheduled in December 2016. In the year after the first application for market approval is submitted to the FDA and until approval is obtained, the minimum annual royalty will increase to $150,000. In the year after the first market approval is obtained from the FDA and until the first sale of a product, the minimum annual royalty payable by the Company will increase to $200,000. In the year after the first commercial sale of a product, the minimum annual royalty will increase to $250,000.

The 2014 License Agreement also provides for certain one-time milestone payments by the Company. A payment of $75,000 is due within five days after any one of the following: (a) dosing of the first patient with a product in a Phase 2 human clinical study anywhere in the world that is not sponsored by the University of Illinois, (b) dosing of the first patient in a Phase 2 human clinical study anywhere in the world with a low dose of dronabinol, or (c) dosing of the first patient in a Phase 1 human clinical study anywhere in the world with a proprietary reformulation of dronabinol. A payment of $350,000 is due within five days after dosing of the first patient with a product in a Phase 3 human clinical trial anywhere in the world. A payment of $500,000 is due within five days after the first new drug application filing with the FDA or a foreign equivalent for a product. A payment of $1,000,000 is due within 12 months after the first commercial sale of a product.

During the three months ended March 31, 2017 and 2016, the Company recorded a charge to operations of $25,000 and $25,000, respectively, with respect to its 2017 and 2016 minimum annual royalty obligation, which is included in research and development expenses in the Company's condensed consolidated statement of operations for the three months ended March 31, 2017 and 2016.

Research Contract with the University of Alberta

On January 12, 2016, the Company entered into a Research Contract with the University of Alberta in order to test the efficacy of ampakines at a variety of dosage and formulation levels in the potential treatment of Pompe Disease, apnea of prematurity and spinal cord injury, as well as to conduct certain electrophysiological studies to explore the ampakine mechanism of action for central respiratory depression. The Company agreed to pay the University of Alberta total consideration of approximately CAD$146,000 (approximately US$111,000), consisting of approximately CAD$85,000 (approximately US$65,000) of personnel funding in cash in four installments during 2016, to provide approximately CAD$21,000 (approximately US$16,000) in equipment, to pay patent costs of CAD$20,000 (approximately US$15,000), and to underwrite additional budgeted costs of CAD$20,000 (approximately US$15,000). As of December 31, 2016, all payments required pursuant to this Research Contract had been made as required. The conversion to US dollars above utilized an exchange rate of US$0.76 for every CAD$1.00.

The University of Alberta will receive matching funds through a grant from the Canadian Institutes of Health Research in support of the research. The Company will retain the rights to research results and any patentable intellectual property generated by the research. Dr. John Greer, Chairman of the Company's Scientific Advisory Board and faculty member of the Department of Physiology, Perinatal Research Centre and Women & Children's Health Research Institute, and Alberta Innovates - Health Sciences Senior Scientist with the Neuroscience and Mental Health Institute at the University of Alberta, will collaborate on this research. The studies were completed in 2016.

National Institute of Drug Abuse Agreement

On January 19, 2016, the Company announced that that it has reached an agreement with the Medications Development Program of the National Institute of Drug Abuse ("NIDA") to conduct research on the Company's ampakine compounds CX717 and CX1739. The agreement was entered into as of October 19, 2015, and on January 14, 2016, the Company and NIDA approved the proposed protocols, allowing research activities to commence.

NIDA will evaluate the compounds using pharmacologic, pharmacokinetic and toxicologic protocols to determine the potential effectiveness of the ampakines for the treatment of drug abuse and addiction. Initial studies will focus on cocaine and methamphetamine addiction and abuse, and will be contracted to outside testing facilities and/or government laboratories, with all costs to be paid by NIDA. The Company will provide NIDA with supplies of CX717 and CX1739 and will work with the NIDA staff to refine the protocols and dosing parameters. The Company will retain all intellectual property, as well as proprietary and commercialization rights to these compounds.

Duke University Clinical Trial Agreement

On January 27, 2015, the Company entered into a Clinical Study and Research Agreement (the "Agreement") with Duke University to develop and conduct a protocol for a program of clinical study and research at a total cost of $50,579, which was completed in March 2015 and charged to research and development expenses during the three months ended March 31, 2015. On October 30, 2015, the Agreement was amended to provide for a Phase 2A clinical trial of CX1739 at a cost of $558,268. During March 2016, a Phase 2A clinical trial at Duke University School of Medicine was initiated, with the dosing portion of the clinical trial completed in June 2016 and the clinical trial formally completed on July 11, 2016. On July 28, 2016, the Agreement was further amended to reflect additional post-clinical trial costs of $120,059, increasing the total amount payable under the Agreement to $678,327. During the three months ended March 31, 2017 and 2016, the Company charged $0 and $151,150, respectively, to research and development expenses with respect to work conducted pursuant to the amended Agreement.

Sharp Clinical Services, Inc. Agreement

The Company has various agreements with Sharp Clinical Services, Inc. to provide packaging, labeling, distribution and analytical services.

Covance Laboratories Inc. Agreement

On October 26, 2016, the Company entered into a twelve month agreement with Covance Laboratories Inc. to provide compound testing and storage services with respect to CX1739, CX1866 and CX1929 at a total budgeted cost of $35,958.

Summary of Principal Cash Obligations and Commitments

The following table sets forth the Company's principal cash obligations and commitments for the next five fiscal years as of March 31, 2017, aggregating $1,958,200. Amounts included in the 2017 column represent amounts contractually due at March 31, 2017 during the remainder of the 2017 fiscal year ending December 31, 2017.

		Payments Due By Year				
	Total	**2017**	**2018**	**2019**	**2020**	**2021**
Research and development contracts	$ —	$ —	$ —	$ —	$ —	$ —
Clinical trial agreements	—	—	—	—	—	—
License agreements	475,000	75,000	100,000	100,000	100,000	100,000
Employment and consulting agreements (1)	1,483,200	741,600	741,600	—	—	—
Total	$ 1,958,200	$ 816,600	$ 841,600	$ 100,000	$ 100,000	$ 100,000

(1) The payment of such amounts has been deferred indefinitely, as described above at "Employment Agreements".

10. Subsequent Events

The Company performed an evaluation of subsequent events through the date of filing of these financial statements with the SEC. There were no material subsequent events which affected, or could affect, the amounts or disclosures in the condensed consolidated financial statements.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

Since its formation in 1987, RespireRx Pharmaceuticals Inc. ("RespireRx" and together with its wholly-owned subsidiary, the "Company") has been engaged in the research and clinical development of 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 that are controlled in the pre-Bötzinger complex of the brain stem.

In clinical studies, the Company's two lead ampakines have shown preliminary efficacy in the control of respiratory depression produced by opioids, without altering their 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 of ampakines that do not display the undesirable side effects previously reported in animal models of earlier generations.

The Company owns patents and patent applications, or the rights thereto, for certain families of chemical compounds, including ampakines, which claim the chemical structures, their actions as ampakines and their use in the treatment of various disorders. Patents claiming a family of chemical structures, including CX1739 and CX1942, as well as their use in the treatment of various disorders extend through at least 2028. Additional patents claiming a family of chemical structures, including CX717, as well as their use in the treatment of various disorders expire in 2017 in the U.S. and in 2018 internationally.

In 2011, RespireRx conducted a re-evaluation of its strategic focus and determined that clinical development in the area of respiratory disorders, particularly sleep apnea and drug-induced respiratory depression, provided the most cost-effective opportunities for potential rapid development and commercialization of RespireRx's compounds. Accordingly, RespireRx narrowed its clinical focus at that time and sidelined other avenues of scientific inquiry. This re-evaluation provided the impetus for RespireRx's acquisition of Pier Pharmaceuticals, Inc. ("Pier") in August 2012, as described below.

The Company has continued to implement this strategic focus, notwithstanding a change in management in March 2013, and has continued its efforts to obtain the capital necessary to fund the clinical activities. As a result of the Company's scientific discoveries and the acquisition of strategic, exclusive license agreements, management believes that the Company is now a leader in developing drugs for neurologically controlled respiratory disorders, particularly sleep apneas and drug-induced respiratory depression.

On May 8, 2007, RespireRx entered into a license agreement, as subsequently amended, with the University of Alberta granting RespireRx exclusive rights to method of treatment patents held by the University of Alberta claiming the use of ampakines for the treatment of various respiratory disorders. These patents, along with RespireRx's own patents claiming chemical structures, comprise RespireRx's principal intellectual property supporting RespireRx's research and clinical development program in the use of ampakines for the treatment of neurologically controlled respiratory disorders. RespireRx has completed pre-clinical studies indicating that several of its ampakines, including CX717, CX1739 and CX1942, were efficacious in treating drug induced respiratory depression caused by opioids or certain anesthetics without offsetting the analgesic effects of the opioids or the anesthetic effects of the anesthetics. In two clinical Phase 2 studies, one of which was published in a peer-reviewed journal, CX717, a predecessor compound to CX1739 and CX1942, antagonized the respiratory depression produced by fentanyl, a potent narcotic, without affecting the analgesia produced by this drug. In addition, RespireRx has conducted a Phase 2A clinical study in which patients with sleep apnea were administered CX1739, RespireRx's lead clinical compound. The results suggested that CX1739 might have use as a treatment for central sleep apnea ("CSA") and mixed sleep apnea, but not obstructive sleep apnea ("OSA").

The Company filed an Investigational New Drug ("IND") application with the FDA in September 2015 to conduct a double-blind, placebo-controlled, dose-ascending Phase 2A clinical trial in approximately 18 subjects to determine the ability of orally administered CX1739, the Company's proprietary lead ampakine, to prevent the respiratory depression produced by remifentanil, a potent opioid, without altering remifentanil's analgesic properties. The clinical protocol was designed to evaluate the safety and efficacy of three escalating doses of CX1739 versus placebo when administered prior to remifentanil, with respiration, analgesia and a number of other clinical measures being taken after administration of both drugs. The commencement of this clinical trial was subject to resolution of two deficiencies raised by the FDA in its clinical hold letter issued in November 2015. These issues were satisfactorily resolved in early 2016, and the FDA removed the clinical hold on the Company's IND for CX1739 on February 25, 2016, thus allowing for the initiation of the clinical trial. During March 2016, upon receiving unconditional approval from the Institutional Review Board ("IRB") of the Duke Clinical Research Unit of the Duke Clinical Research Institute, this Phase 2A clinical trial at Duke University School of Medicine was initiated.

On December 15, 2016, the Company announced results of this Phase 2A clinical study. This Phase 2a clinical trial evaluated the ability of CX1739 in two models of opioid use: During REMI-INFUSION, respiration, pain, and other parameters were measured during a 30 minute intravenous infusion of remifentanil in order to produce stable blood levels resulting in approximately 50% declines in respiratory rate over this period. During REMI-BOLUS, a model of acute opioid overdose, a single, intravenous bolus injection of remifentanil was administered at a dose calculated to achieve approximately 50% respiratory depression. During REMI-INFUSION, CX1739 treatment antagonized the respiratory rate depression produced by remifentanil, with statistically significant effects observed at 300mg ($p<.005$) and 900mg ($p<.001$). The antagonism produced by the 600mg dose did not achieve statistical significance. This lack of a linear, dose response effect is not unusual in early stage clinical trials. During this period, CX1739 did not significantly alter the analgesic and sedative effects of reminfentanil. During REMI-BOLUS, CX1739 treatment did not prevent respiratory depression, nor improve time to recovery at any of the doses tested.

Overall, CX1739 was found to be safe and well tolerated, both prior to and during administration of remifentanil. Treatment-related adverse events (AEs) for the various doses of CX1739 were mild, with an incidence comparable to that reported for placebo. The great majority of AEs occurred after remifentanil administration.

The study consisted of two separate stages. Stage 1 was a randomized, double-blind, crossover study comparing 300 mg CX1739 to placebo and Stage 2 was an open-label, ascending dose study to assess 600 and 900 mg of CX1739. Subjects were tested once a week over a four-week period. Statistical comparisons were performed for Stage 1 alone as well as for Stage 1 and Stage 2 combined.

On each study day, REMI-BOLUS was initiated with an intravenous, bolus injection of remifentanil 3 hours after subjects received either placebo or CX1739. Respiration was measured for 20 minutes and then compared to the baseline respiration recorded 5 minutes prior to the bolus injection. REMI-INFUSION was initiated 3.5 hours after placebo or CX1739, with an intravenous infusion protocol designed to maintain stable remifentanil blood levels and calculated to produce approximately 50% respiratory depression. The ClinicalTrials.gov identifier is NCT02735629.

In order to expand RespireRx's respiratory disorders program, RespireRx acquired 100% of the issued and outstanding equity securities of Pier effective August 10, 2012 pursuant to an Agreement and Plan of Merger. Pier was formed in June 2007 (under the name SteadySleep Rx Co.) as a clinical stage pharmaceutical company to develop a pharmacologic treatment for OSA and had been engaged in research and clinical development activities.

Through the merger, RespireRx gained access to an Exclusive License Agreement (as amended, the "Old License Agreement") that Pier had entered into with the University of Illinois on October 10, 2007. The Old License Agreement covered certain patents and patent applications in the United States and other countries claiming the use of certain compounds referred to as cannabinoids, of which dronabinol is a specific example, for the treatment of sleep-related breathing disorders (including sleep apnea). Dronabinol is a synthetic derivative of the naturally occurring substance in the cannabis plant, otherwise known as Δ9-THC (Δ9-tetrahydrocannabinol). Pier's business plan was to determine whether dronabinol would significantly improve subjective and objective clinical measures in patients with OSA. In addition, Pier intended to evaluate the feasibility and comparative efficacy of a proprietary formulation of dronabinol.

The Old License Agreement was terminated effective March 21, 2013, due to the Company's failure to make a required payment. Subsequently, current management opened negotiations with the University of Illinois, and as a result, the Company entered into a new license agreement (the "2014 License Agreement") with the University of Illinois on June 27, 2014, the material terms of which were similar to the Old License Agreement.

Similar to the Old License Agreement, the 2014 License Agreement grants the Company, among other provisions, exclusive rights: (i) to practice certain patents and patent applications, as defined in the 2014 License Agreement, that are held by the University of Illinois; (ii) to identify, develop, make, have made, import, export, lease, sell, have sold or offer for sale any related licensed products; and (iii) to grant sub-licenses of the rights granted in the 2014 License Agreement, subject to the provisions of the 2014 License Agreement. The Company is required under the 2014 License Agreement, among other terms and conditions, to pay the University of Illinois a license fee, royalties, patent costs and certain milestone payments.

Prior to the merger, Pier conducted a 21 day, randomized, double-blind, placebo-controlled, dose escalation Phase 2 clinical study in 22 patients with OSA, in which 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. Subsequently, the University of Illinois and three other research centers has recently completed an investigation of dronabinol in a potentially pivotal, six week, double-blind, placebo-controlled Phase 2B clinical trial in patients with OSA. On December 23, 2016, the Company announced the top line results of the double-blind, placebo controlled clinical trial which showed, in a dose dependent fashion, treatment with 2.5mg and 10mg of dronabinol once a day at night, statistically reduces the Apnea Hypopnea Index ("AHI"), a measure of breathing abnormalities during sleep in 56 patients with moderate to severe OSA who completed the study. Additionally, treatment with 10mg of dronabinol significantly improved daytime sleepiness as measured by the ESS (Epworth Sleepiness Scale) and achieved the greatest overall patient satisfaction. The Company did not manage or fund this clinical trial which was funded by by the National Heart, Lung and Blood Institute of the National Institutes of Health.

Dronabinol is a Schedule III, controlled generic drug with a relatively low abuse potential that is approved by the U.S. Food and Drug Administration (the "FDA") for the treatment of AIDS-related anorexia and chemotherapy-induced emesis. The use of dronabinol for the treatment of OSA is a novel indication for an already approved drug and, as such, the Company believes that it would only require approval by the FDA of a supplemental new drug application.

While developing potential applications for respiratory disorders, RespireRx has retained and expanded its ampakine intellectual property and data with respect to neurological and psychiatric disorders and is considering developing certain indications, pending additional financing and/or strategic relationships. As an example, based on positive results from a Phase 2 clinical trial, RespireRx has filed patent applications for the use of ampakines for the treatment of Attention Deficit Hyperactivity Syndrome (ADHD). In addition, animal studies conducted in collaboration with Dr. David Fuller and his colleagues at the University of Florida have demonstrated the ability of our lead ampakines to significantly enhance the activity of motor nerves, including those innervating the diaphragm, and to improve breathing in animals with spinal cord injury. The Company believes that these results reflect a more general process whereby the ampakines might improve the motor nerve activity of a number of systems. While additional animal studies are planned at the University of Florida, the Company is planning, pending additional financing, to conduct a Phase 2 clinical trial investigating the ability of our lead ampakines to improve breathing and motor function in spinal cord injury patients.

Recent Developments

2017 Unit Offering

On March 10, 2017 and March 28, 2017, the Company sold units to investors for aggregate gross proceeds of $350,000, with each unit consisting of one share of the Company's common stock and one common stock purchase warrant to purchase one share of the Company's common stock (the "2017 Unit Offering"). Units were sold for $2.50 per unit and the warrants issued in connection with the units are exercisable at a fixed price $2.75 per share of the Company's common stock. The warrants contain a cashless exercise provision and certain blocker provisions preventing exercise during periods of time when the investor would beneficially own more than 4.99% of the Company's outstanding shares of common stock if such exercise were to occur. The warrants are also subject to redemption by the Company at $0.001 per share upon ten (10) days written notice if the Company's common stock closes at 200% or more of the unit purchase price for any five (5) consecutive trading days. Investors were non-affiliated purchasers. Investors received an unlimited number of piggy-back registration rights. Investors received an unlimited number of exchange rights, which are options and not obligations, to exchange such investor's entire investment (and not less than the entire investment) into one or more subsequent equity financings (consisting solely of convertible preferred stock or common stock or units containing preferred stock or common stock and warrants exercisable only into preferred stock or common stock) that would be considered as "permanent equity" under United States Generally Accepted Accounting Principles and the rules and regulations of the United States Securities and Exchange Commission, and therefore classified as stockholders' equity, and excluding any form of debt or convertible debt (each such financing a "Subsequent Equity Financing"). These exchange rights are effective until the earlier of: (i) the completion of any number of subsequent financings aggregating at least $15 million gross proceeds to the Company, or (ii) December 30, 2017. The dollar amount used to determine the amount invested or exchanged into the subsequent financing will be 1.2 times the amount of the original investment. Under certain circumstances, the ratio may be 1.4 instead of 1.2. The exchange right does not permit the investors to exchange into a debt offering. Unlike the 2 nd 2016 Unit Offering, the 2017 Unit Offering resulted in the issuance of permanent equity. The closing market prices of the Company's common stock on March 10, 2017 and March 28, 2017 were $4.05 and $3.80 respectively.

Going Concern

The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has incurred net losses of $1,469,144 for the three months ended March 31, 2017 and $9,229,760 for the fiscal year ended December 31, 2016, and negative operating cash flows of $221,091 for the three months ended March 31, 2017 and $1,328,684 for the fiscal year ended December 31, 2016. The Company also had a stockholders' deficiency of $5,911,479 at March 31, 2017, and expects to continue to incur net losses and negative operating cash flows for at least the next few years. As a result, management has concluded that there is substantial doubt about the Company's ability to continue as a going concern, and the Company's independent registered public accounting firm, in its report on the Company's consolidated financial statements for the year ended December 31, 2016, expressed substantial doubt about the Company's ability to continue as a going concern.

The Company is currently, and has for some time, been in significant financial distress. It has limited cash resources and current assets and has no ongoing source of sustainable revenue. Management is continuing to address various aspects of the Company's operations and obligations, including, without limitation, debt obligations, financing requirements, intellectual property, licensing agreements, legal and patent matters and regulatory compliance, and has continued to raise new debt and equity capital to fund the Company's business activities from both related and unrelated parties.

The Company is continuing its efforts to raise additional capital in order to be able to pay its liabilities and fund its business activities on a going forward basis, including the pursuit of the Company's planned research and development activities. The Company regularly evaluates various measures to satisfy the Company's liquidity needs, including development and other agreements with collaborative partners and, when necessary, seeking to exchange or restructure the Company's outstanding securities. As a result of the Company's current financial situation, the Company has limited access to external sources of debt and equity financing. Accordingly, there can be no assurances that the Company will be able to secure additional financing in the amounts necessary to fully fund its operating and debt service requirements. If the Company is unable to access sufficient cash resources, the Company may be forced to discontinue its operations entirely and liquidate.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update No. 2014-09 (ASU 2014-09), Revenue from Contracts with Customers. ASU 2014-09 will eliminate transaction- and industry-specific revenue recognition guidance under current GAAP and replace it with a principle based approach for determining revenue recognition. ASU 2014-09 will require that companies recognize revenue based on the value of transferred goods or services as they occur in the contract. ASU 2014-09 also will require additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. Based on the FASB's Exposure Draft Update issued on April 29, 2015, and approved in July 2015, Revenue from Contracts With Customers (Topic 606): Deferral of the Effective Date, ASU 2014-09 is now effective for reporting periods beginning after December 15, 2017, with early adoption permitted only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. Entities will be able to transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. The adoption of ASU 2014-09 is not expected to have any impact on the Company's financial statement presentation or disclosures.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), Leases (Topic 842). ASU 2016-02 requires a lessee to record a right-of-use asset and a corresponding lease liability, initially measured at the present value of the lease payments, on the balance sheet for all leases with terms longer than 12 months, as well as the disclosure of key information about leasing arrangements. ASU 2016-02 requires recognition in the statement of operations of a single lease cost, calculated so that the cost of the lease is allocated over the lease term. ASU 2016-02 requires classification of all cash payments within operating activities in the statement of cash flows. Disclosures are required to provide the amount, timing and uncertainty of cash flows arising from leases. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early application is permitted. The Company has not yet evaluated the impact of the adoption of ASU 2016-02 on the Company's financial statement presentation or disclosures.

In May 2017, the FASB issued Accounting Standards Update No. 2017-09 (ASU 2017-09), Compensation – Stock Compensation (Topic 718) Scope of Modification Accounting. The amendments in ASU 2017-09 provide guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. The adoption of ASU 2017-09 which will become effective for annual periods beginning after December 15, 2017 and for interim periods within those annual periods, is not expected to have any impact on the Company's financial statement presentation or disclosures.

Management does not believe that any other recently issued, but not yet effective, authoritative guidance, if currently adopted, would have a material impact on the Company's financial statement presentation or disclosures.

Concentration of Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents. The Company limits its exposure to credit risk by investing its cash with high credit quality financial institutions.

The Company's research and development efforts and potential products rely on licenses from research institutions and if the Company loses access to these technologies or applications, its business could be substantially impaired.

Under a patent license agreement with The Governors of the University of Alberta, the Company has exclusive rights to the use of certain ampakine compounds to prevent and treat respiratory depression induced by opioid analgesics, barbiturates and anesthetic and sedative agents.

On May 8, 2007, the Company entered into a license agreement, as subsequently amended, with the University of Alberta granting the Company exclusive rights to practice patents held by the University of Alberta claiming the use of ampakines for the treatment of various respiratory disorders. The Company agreed to pay the University of Alberta a licensing fee and a patent issuance fee, which were paid, and prospective payments consisting of a royalty on net sales, sublicense fee payments, maintenance payments and milestone payments. The prospective maintenance payments commence on the enrollment of the first patient into the first Phase 2B clinical trial and increase upon the successful completion of the Phase 2B clinical trial. As the Company does not at this time anticipate scheduling a Phase 2B clinical trial, no maintenance payments are currently due and payable to the University of Alberta. In addition, no other prospective payments are currently due and payable to the University of Alberta.

Through the merger with Pier, the Company gained access to the Old License Agreement that Pier had entered into with the University of Illinois on October 10, 2007. The Old License Agreement covered certain patents and patent applications in the United States and other countries claiming the use of certain compounds referred to as cannabinoids for the treatment of sleep related breathing disorders (including sleep apnea), of which dronabinol is a specific example of one type of cannabinoid. Dronabinol is a synthetic derivative of the naturally occurring substance in the cannabis plant, otherwise known as Δ9-THC (Δ9-tetrahydrocannabinol). Dronabinol is currently approved by the FDA and is sold generically for use in refractory chemotherapy-induced nausea and vomiting, as well as for anorexia in patients with AIDS. Pier's business plan was to determine whether dronabinol would significantly improve subjective and objective clinical measures in patients with OSA. In addition, Pier intended to evaluate the feasibility and comparative efficacy of a proprietary formulation of dronabinol. The Old License Agreement was terminated effective March 21, 2013 due to the Company's failure to make a required payment and on June 27, 2014, the Company entered into the 2014 License Agreement with the University of Illinois, the material terms of which were similar to the Old License Agreement that had been terminated. If the Company is unable to comply with the terms of the 2014 License Agreement, such as an inability to make the payments required thereunder, the Company would be at risk of the 2014 License Agreement being terminated.

Critical Accounting Policies and Estimates

The Company prepared its condensed consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. The preparation of these condensed consolidated financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Management periodically evaluates the estimates and judgments made. Management bases its estimates and judgments on historical experience and on various factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates as a result of different assumptions or conditions.

The following critical accounting policies affect the more significant judgments and estimates used in the preparation of the Company's consolidated financial statements.

Convertible Notes Payable

During November and December 2014, the Company sold short-term convertible notes and warrants in an aggregate principal amount of $369,500 to various accredited investors and an additional $210,000 of such short-term convertible notes and warrants in February 2015. The Company terminated this financing, which generated aggregate gross proceeds of $579,500, effective February 18, 2015.

On August 13, 2015, the Company elected to extend the maturity date of the convertible notes with an aggregate principal amount of $579,500 to September 15, 2016. As a consequence of this election, under the terms of the notes, the Company was required to issue to convertible note holders 27,396 additional warrants (the "New Warrants") that were exercisable through September 15, 2016. As set forth in the convertible notes, the New Warrants are exercisable for that number of shares of common stock of the Company calculated as the principal amount of the convertible notes (an aggregate amount of $579,500), plus any accrued and unpaid interest (an aggregate amount of $43,758), multiplied by 50%, and then divided by $11.375. The New Warrants otherwise had terms substantially similar to the 50,945 original warrants issued to the investors. In connection with the extension of the maturity date of the convertible notes, the Board of Directors of the Company determined to extend the termination date of the 50,945 original warrants to September 15, 2016 (the "Old Warrants"), so that they are coterminous with the new maturity date of the notes.

During April and May 2016, the Company entered into Note Exchange Agreements with certain note holders, including one non-officer/director affiliate, as described below, representing an aggregate of $303,500 of principal amount of the convertible notes (out of a total of $579,500 of original principal amount of the convertible notes payable). The Note Exchange Agreements were substantially similar, and provided for the note holders to exchange their notes, original warrants and New Warrants (collectively, the "Exchanged Securities"), plus cash, in exchange for shares of the Company's common stock. In the aggregate, $344,483 of principal amount (which included accrued interest of $40,983) of the convertible notes, original warrants to purchase 26,681 shares of the Company's common stock and New Warrants to purchase 14,259 shares of the Company's common stock, plus an aggregate of $232,846 in cash, were exchanged for 101,508 shares of the Company's common stock, with a total market value of $631,023 (average $6.2075 per share), which resulted in a credit to total stockholders' deficiency of $577,329. All of the Exchanged Securities were cancelled as a result of the respective exchange transactions.

The Company reviewed the guidance in ASC 470-20-40-13 through 17, Recognition of Expense Upon Conversion, and in ASC 470-20-40-26, Induced Conversions. Pursuant to this accounting guidance, for those convertible note holders accepting the Company's exchange offer, the Company evaluated the fair value of the incremental consideration paid to induce conversion of the convertible notes into equity (i.e., 30,284 shares of common stock), based on the closing market price of the Company's common stock on the date of each transaction, and recorded a charge to operations of $188,274.

The Company evaluated the warrants exchanged in conjunction with the Note Exchange Agreements. The Company calculated the fair value of the warrants exchanged (consisting of the warrants issued in conjunction with the original issuance of the convertible notes) as if the warrants were modified immediately before the theoretical warrant modification and immediately after such warrant modification. As the fair value of the warrants immediately after the modifications was less than the fair value of the warrants immediately before the modifications (both amounts calculated pursuant to the Black-Scholes option-pricing model), the Company did not record any accounting entry with respect to the warrant exchange agreements.

Stock-Based Compensation

The Company periodically issues common stock and stock options to officers, directors, Scientific Advisory Board members and consultants for services rendered. Such issuances vest and expire according to terms established at the issuance date of each grant.

The Company accounts for stock-based payments to officers and directors by measuring the cost of services received in exchange for equity awards based on the grant date fair value of the awards, with the cost recognized as compensation expense on the straight-line basis in the Company's financial statements over the vesting period of the awards. The Company accounts for stock-based payments to Scientific Advisory Board members and consultants by determining the value of the stock compensation based upon the measurement date at either (a) the date at which a performance commitment is reached, or (b) at the date at which the necessary performance to earn the equity instruments is complete.

Stock grants, which are generally subject to time-based vesting, are measured at the grant date fair value and charged to operations ratably over the vesting period.

Stock options granted to members of the Company's Scientific Advisory Board and to outside consultants are revalued each reporting period until vested to determine the amount to be recorded as an expense in the respective period. As the stock options vest, they are valued on each vesting date and an adjustment is recorded for the difference between the value already recorded and the value on the date of vesting.

The fair value of stock options is determined utilizing the Black-Scholes option-pricing model, and is affected by several variables, the most significant of which are the life of the equity award, the exercise price of the security as compared to the fair market value of the common stock on the grant date, and the estimated volatility of the common stock over the term of the equity award. Estimated volatility is based on the historical volatility of the Company's common stock. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant. The fair value of common stock is determined by reference to the quoted market price of the Company's common stock.

Stock options and warrants issued to non-employees as compensation for services to be provided to the Company or in settlement of debt are accounted for based upon the fair value of the services provided or the estimated fair value of the stock option or warrant, whichever can be more clearly determined. Management uses the Black-Scholes option-pricing model to determine the fair value of the stock options and warrants issued by the Company. The Company recognizes this expense over the period in which the services are provided.

The Company recognizes the fair value of stock-based compensation in general and administrative costs and in research and development costs, as appropriate, in the Company's condensed consolidated statements of operations. The Company issues new shares of common stock to satisfy stock option exercises.

Research and Development Costs

Research and development costs consist primarily of fees paid to consultants and outside service providers and organizations (including research institutes at universities), patent fees and costs, and other expenses relating to the acquisition, design, development and testing of the Company's treatments and product candidates.

Research and development costs incurred by the Company under research grants are expensed as incurred over the life of the underlying contracts, unless the terms of the contract indicate that a different expensing schedule is more appropriate.

The Company reviews the status of its research and development contracts on a quarterly basis.

License Agreements

Obligations incurred with respect to mandatory payments provided for in license agreements are recognized ratably over the appropriate period, as specified in the underlying license agreement, and are recorded as liabilities in the Company's condensed consolidated balance sheet, with a corresponding charge to research and development costs in the Company's condensed consolidated statement of operations. Obligations incurred with respect to milestone payments provided for in license agreements are recognized when it is probable that such milestone will be reached, and are recorded as liabilities in the Company's condensed consolidated balance sheet, with a corresponding charge to research and development costs in the Company's condensed consolidated statement of operations. Payments of such liabilities are made in the ordinary course of business.

Patent Costs

Due to the significant uncertainty associated with the successful development of one or more commercially viable products based on the Company's research efforts and any related patent applications, all patent costs, including patent-related legal and filing fees, are expensed as incurred.

Results of Operations

The Company's condensed consolidated statements of operations as discussed herein are presented below.

	Three Months Ended March 31, (unaudited)	
	2017	2016
Operating expenses:		
General and administrative, including $631,910 and $1,163,411 to related parties for the three months ended March 31, 2017 and 2016, respectively	989,875	1,499,640
Research and development, including $289,220 and $417,960 to related parties for the three months ended March 31, 2017 and 2016, respectively	430,810	917,136
Total operating costs and expenses	1,420,685	2,416,776
Loss from operations	(1,420,685)	(2,416,776)
Interest expense, including $3,827 and $98,366 to related parties for the three months ended March 31, 2017 and 2016, respectively	(25,037)	(246,765)
Foreign currency transaction (loss)	(23,422)	(17,410)
Net loss	(1,469,144)	(2,680,951)
Adjustment related to Series G 1.5% Convertible Preferred Stock:		
Dividends on Series G 1.5% Convertible Preferred Stock	-	(981)
Net loss attributable to common stockholders	$ (1,469,144)	$ (2,681,932)
Net loss per common share - basic and diluted	$ (0.68)	$ (1.76)
Weighted average common shares outstanding - basic and diluted	2,159,267	1,525,946

Three Months Ended March 31, 2017 and 2016

Revenues . The Company had no revenues during the three months ended March 31, 2017 and 2016.

General and Administrative . For the three months ended March 31, 2017, general and administrative expenses were $989,875, a decrease of $509,765, as compared to $1,499,640 for the three months ended March 31, 2016. The decrease in general and administrative expenses for the three months ended March 31, 2017, as compared to the three months ended March 31, 2016, is primarily due to a decrease in stock-based compensation of $535,927, decreases in salaries, employee benefits and board fees of $33,082, partially offset by increases in legal fees, accounting fees of $49,483 and $7,847, respectively, and the net effect of increases and decreases other general and administrative expenses.

Stock-based compensation costs included in general and administrative expenses were $494,904 for the three months ended March 31, 2017, as compared to $1,030,831 for the three months ended March 31, 2016, reflecting a decrease of $535,927. The decrease in stock-based compensation reflects the lower levels of stock options granted to members of management, the Company's Board of Directors and to outside consultants. Salaries, employee benefits and board fees included in general and administrative expenses were $196,324 for the three months ended March 31, 2016, as compared to $229,406 for the three months ended March 31, 2016, reflecting a decrease of $33,802.

Research and Development . For the three months ended March 31, 2017, research and development expenses were $430,810, a decrease of $486,326, as compared to $917,136 for the three months ended March 31, 2016. The decrease in research and development expenses for the three months ended March 31, 2017, as compared to the three months ended March 31, 2016, is primarily a result of a decrease in stock-based compensation of $214,402, a decrease to $0 of clinical trial costs in respect to the CX1739 clinical study at Duke, which is a decrease of $151,150 as the trial completed in 2016, a decrease in patent costs and consultants of $35,305 and $29,192 respectively, and other net declines in research and development costs of $73,276, partially offset by an increase $17,400 in salaries and employee benefits.

Stock-based compensation costs included in research and development expenses were $226,138 for the three months ended March 31, 2017, as compared to $440,540 for the three months ended March 31, 2016, reflecting a decrease of $214,402. The decrease in stock-based compensation reflects the lower levels of stock options granted to members of management and to outside consultants engaged in research and development activities. Salaries and employee benefits included in research and development expenses were $97,400 for the three months ended March 31, 2017, as compared to $80,400 for the three months ended March 31, 2017, reflecting an increase of $17,400.

Interest Expense . During the three months ended March 31, 2017, interest expense was $25,037 (including $3,827 to related parties), a decrease of $221,728, as compared to $246,765 (including $98,366 to related parties) for the three months ended March 31, 2017. The net decrease is substantially the result of the exchange of convertible notes and exercise of the related warrants late in the first quarter and early in the second quarter of 2016, eliminating the related interest expense for the first quarter of 2017 (one of such notes exchanged was with a related party as discussed above). The 2016 interest expense included the fair value of fully vested warrants issued to the Company's Chief Executive Officer and Chief Scientific Officer in connection with working capital loans made by them to the Company during the three months ended March 31, 2016, offset primarily by a decrease of $82,604 in the amortization of debt discounts and capitalized financing costs associated with the convertible note financing and subsequent extension. The amortization of debt discounts and capitalized financing costs charged to interest expense during the three months ended March 31, 2017 aggregated $0, as compared to $120,490 during the three months ended March 31, 2016.

Foreign Currency Transaction (Loss) Gain . Foreign currency transaction loss was $23,422 for the three months ended March 31, 2017, as compared to a foreign currency transaction gain of $17,410 for the three months ended March 31, 2016. The foreign currency transaction (loss) gain relates to the $399,774 loan from SY Corporation Co., Ltd., formerly known as Samyang Optics Co. Ltd., made in June 2012, which is denominated in the South Korean Won.

Net Loss . For the three months ended March 31, 2017, the Company incurred a net loss of $1,469,144, as compared to a net loss of $2,680,951 for the three months ended March 31, 2016.

Dividends on Series G 1.5% Convertible Preferred Stock . All of the Series G 1.5% Convertible Preferred Stock that had not been previously converted, mandatorily converted in April 2016. Therefore, there were $0 dividends on the Series G 1.5% Convertible Preferred Stock for the three months ended March 31, 2017, as compared to $981 for the three months ended March 31, 2016.

Net Loss Attributable to Common Stockholders . For the three months ended March 31, 2017, the Company incurred a net loss attributable to common stockholders of $1,469,144, as compared to a net loss attributable to common stockholders of $2,681,932 for the three months ended March 31, 2016.

Liquidity and Capital Resources - March 31, 2017

The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has incurred net losses of $1,469,144 for the three months ended March 31, 2017 and $9,229,760 for the fiscal year ended December 31, 2016, and negative operating cash flows of $221,091 for the three months ended March 31, 2017 and $1,328,684 for the fiscal year ended December 31, 2016, had a stockholders' deficiency of $5,911,479 at March 31, 2017, and expects to continue to incur net losses and negative operating cash flows for at least the next few years. As a result, management has concluded that there is substantial doubt about the Company's ability to continue as a going concern, and the Company's independent registered public accounting firm, in its report on the Company's consolidated financial statements for the year ended December 31, 2016, expressed substantial doubt about the Company's ability to continue as a going concern.

At March 31, 2017, the Company had a working capital deficit of $5,944,208, as compared to a working capital deficit of $5,493,377 at December 31, 2016, reflecting an increase in the working capital deficit of $450,831 for the three months ended March 31, 2017. The increase in the working capital deficit during the three months ended March 31, 2017 is comprised primarily of an increase in total current liabilities of $595,574. The increase in total current liabilities of $595,574 consists of a net increase in accounts payable and accrued expenses of $210,156, an increase in accrued compensation of $281,224, an increase in other notes payable (primarily the financing of an insurance premium) of $55,762, and increase in the note to Samyang inclusive of accrued interest of $35,251, an increase in convertible notes payable inclusive of accrued interest of $9,354, and an increase in notes payable to officers inclusive of accrued interest of $3,827.

At March 31, 2017, the Company had cash aggregating $220,949, as compared to $92,040 at December 31, 2016, reflecting an increase in cash of $128,909 for the three months ended March 31, 2017. The increase in cash during the three months ended March 31, 2017 was primarily the result of two closings of the 2017 Unit Financing, partially offset by expenditures associated with operating expenses.

The Company is currently, and has for some time, been in significant financial distress. It has limited cash resources and current assets and has no ongoing source of revenue. Management is continuing to address numerous aspects of the Company's operations and obligations, including, without limitation, debt obligations, financing requirements, intellectual property, licensing agreements, legal and patent matters and regulatory compliance, and has continued to raise new debt and equity capital to fund the Company's business activities.

To meet minimum operating needs, from June 2013 through March 31, 2017, the Company has engaged in a number of financings of various types. These included the issuance of notes to the Chairman at that time prior to the March and April 2014 closing of the Series G 1.5% Convertible Note financing, in which the Chairman at that time participated and in respect to which financing the earlier notes from the Chairman at that time were repaid. Subsequently, the Company completed the Convertible Note and Warrant financing followed by the 1 st 2016 Unit Financing, the 2 nd 2016 Unit Financing, the Note and Warrant Exchange Agreements and the related financing associated with warrant exercises, the Warrant Exchange Agreements associated with the 1 st 2016 Unit Financing that resulted in the exercise of a portion of the associated warrants and the 2017 Unit Financing. The Company has also issued notes and related warrants to two executive officers in exchange for financing. The Company is continuing its efforts to raise additional capital in order to be able to pay its liabilities and fund its business activities on a going forward basis and regularly evaluates various measures to satisfy the Company's liquidity needs, including development and other agreements with collaborative partners and seeking to exchange or restructure some of the Company's outstanding securities. Though the Company actively pursues opportunities to finance its operations through external sources of debt and equity financing, it has limited access to such financing and there can be no assurance that such financing will be available on terms acceptable to the Company, or at all.

Operating Activities . For the three months ended March 31, 2017, operating activities utilized cash of $221,091, as compared to utilizing cash of $343,300 for the three months ended March 31, 2016, to support the Company's ongoing research and development activities as well as general and administrative expenses.

Financing Activities . For the three months ended March 31, 2017, financing activities generated cash of $350,000, consisting of $350,000 in proceeds from the common stock and warrant unit financing. For the three months ended March 31, 2016, financing activities generated cash of $296,154, consisting $194,635 from the common stock and warrant unit financing and $105,200 in proceeds from officer loans.

Principal Commitments

Employment Agreements

On August 18, 2015, the Company entered into an employment agreement with Dr. James S. Manuso to be its new President and Chief Executive Officer. Pursuant to the agreement, which is for an initial term of three years, Dr. Manuso is to receive an initial annual base salary of $375,000, subject to certain conditions, which will increase to $450,000 annually upon the first anniversary of his contract, again subject to certain conditions being met. Dr. Manuso will also be eligible to receive bonuses ranging from $100,000 to $300,000, once certain conditions have been met or at the discretion of the Board of Directors. Additionally, Dr. Manuso was granted stock options to acquire 85,081,300 shares of common stock of the Company and is eligible to receive additional awards under the Company's Plans in the discretion of the Board of Directors. Dr. Manuso had also agreed to purchase newly issued securities of the Company in an amount of $250,000, which was accomplished by Dr. Manuso's participation in the first closing of the unit offering of common stock and warrants on August 28, 2015. Dr. Manuso will also receive, beginning on the first anniversary of the agreement, additional compensation to cover automobile lease expenses (up to a maximum of $16,000 annually, on a tax-equalized basis) if certain conditions are met, and, until such time as the Company establishes a group health plan for its employees, $1,200 per month, on a tax-equalized basis, to cover the cost of health coverage and up to $1,000 per month, on a tax-equalized basis, for a term life insurance policy and disability insurance policy. He will also be reimbursed for business expenses. The payment obligation associated with the first year base salary is to accrue, but no payments are to be made, until at least $2,000,000 of net proceeds from any offering or financing of debt or equity, or a combination thereof, is received by the Company, at which time, scheduled payments are to commence. Cash compensation accrued pursuant to this agreement totaled $103,650 for the three months ended March 31, 2017, and $110,400 for the three months ended March 31, 2016. Such amounts are included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, respectively, and in general and administrative expenses in the Company's condensed consolidated statement of operations for the three months ended March 31, 2017 and 2016. Dr. Manuso was also appointed to the Company's Board of Directors and elected as Vice Chairman of the Board of Directors. Dr. Manuso will not receive any additional compensation for serving as Vice Chairman and on the Board of Directors. Such amounts have not been paid to Dr. Manuso.

On August 18, 2015, concurrently with the hiring of Dr. James S. Manuso as its new President and Chief Executive Officer, the Company accepted the resignation of Dr. Arnold S. Lippa, as President and Chief Executive Officer. Dr. Lippa continues to serve as the Company's Executive Chairman and a member of the Board of Directors. Also on August 18, 2015, Dr. Lippa was named Chief Scientific Officer of the Company, and the Company entered into an employment agreement with Dr. Lippa in that capacity. Pursuant to the agreement, which is for an initial term of three years, Dr. Lippa is to receive an initial annual base salary of $300,000, subject to certain conditions, which will increase to $375,000 annually upon the first anniversary of his contract, again subject to certain conditions being met. Dr. Lippa will also be eligible to receive bonuses ranging from $75,000 to $150,000, once certain conditions have been met or at the discretion of the Board of Directors. Additionally, Dr. Lippa was granted stock options to acquire 10,000,000 shares of common stock of the Company and is eligible to receive additional awards under the Company's Plans at the discretion of the Board of Directors. Dr. Lippa will also receive, beginning on the first anniversary of the agreement, additional compensation to cover automobile lease expenses (up to a maximum of $12,000 annually, on a tax-equalized basis) if certain conditions are met, and, until such time as the Company establishes a group health plan for its employees, $1,200 per month, on a tax-equalized basis, to cover the cost of health coverage and up to $1,000 per month, on a tax-equalized basis, for a term life insurance policy and disability insurance policy. He will also be reimbursed for business expenses. The payment obligation associated with the first year base salary is to accrue, but no payments are to be made, until at least $2,000,000 of net proceeds from any offering or financing of debt or equity, or a combination thereof, is received by the Company, at which time, scheduled payments are to commence. Cash compensation accrued pursuant to this agreement totaled $84,900 for the three months ended March 31, 2017 and $80,400 for the three months ended March 31, 2016, respectively, which is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in research and development expenses in the Company's condensed consolidated statement of operations. Cash compensation accrued to Dr. Lippa for bonuses and under a prior superseded arrangement, while still serving as the Company's President and Chief Executive Officer, totaled $94,758 and is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in general and administrative expenses in the Company's condensed consolidated statement of operations. Such amounts have not been paid to Dr. Lippa. Dr. Lippa does not receive any additional compensation for serving as Executive Chairman and on the Board of Directors.

On August 18, 2015, the Company also entered into employment agreements with Jeff E. Margolis, in his continuing role as Vice President, Secretary and Treasurer, and Robert N. Weingarten, in his continuing role as Vice President and Chief Financial Officer, the position from which he resigned in February 2017. Mr. Weingarten remains a consultant to the Company. Pursuant to the agreements, which are for initial terms of one year (and which, for Mr. Margolis, will be deemed to be automatically extended upon the same terms and conditions, for successive periods of one year, unless either party provides written notice of its intention not to extend the term of the agreement at least 90 days prior to the applicable renewal date), Mr. Margolis and Mr. Weingarten, until his resignation, each received an initial annual base salary of $195,000, and since Mr. Weingarten's resignation, only Mr. Margolis is eligible to receive performance-based annual bonus awards ranging from $65,000 to $125,000, based upon the achievement of annual performance goals established by the Board of Directors in consultation with the executive prior to the start of such fiscal year, or any amount at the discretion of the Board of Directors. Additionally, Mr. Margolis and Mr. Weingarten were each granted stock options to acquire 30,769 shares of common stock of the Company and both are eligible to receive additional awards under the Company's Plans at the discretion of the Board of Directors. Mr. Weingarten remains eligible for additional awards as he remains a consultant to the Company. Mr. Margolis and Mr. Weingarten (until his resignation), are/were also each entitled to receive, until such time as the Company establishes a group health plan for its employees, $1,200 per month, on a tax-equalized basis, as additional compensation to cover the cost of health coverage and up to $1,000 per month, on a tax-equalized basis, as reimbursement for a term life insurance policy and disability insurance policy. Both Mr. Margolis and Mr. Weingarten are also each entitled to be reimbursed for business expenses. Cash compensation accrued pursuant to these agreements were $54,150 for Mr. Margolis for the three months ended March 31, 2017 and 2016 and were $28,524 for Mr. Weingarten for the three months ended March 31, 2017 and $54,150 for the three months ended March 31, 2016, which is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in general and administrative expenses in the Company's condensed consolidated statement of operations. Cash compensation accrued to Mr. Margolis and Mr. Weingarten for bonuses and under prior superseded arrangements totaled $151,612 ($75,806 each) and is also included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at March 31, 2017 and 2016, and in general and administrative expenses in the Company's condensed consolidated statement of operations. Such amounts have not been paid to Mr. Margolis or Mr. Weingarten. Mr. Margolis also continues to serve as a Director of the Company, but does not receive any additional compensation for serving on the Board of Directors.

University of Alberta License Agreement

On May 8, 2007, the Company entered into a license agreement, as amended, with the University of Alberta granting the Company exclusive rights to practice patents held by the University of Alberta claiming the use of ampakines for the treatment of various respiratory disorders. The Company agreed to pay the University of Alberta a licensing fee and a patent issuance fee, which were paid, and prospective payments consisting of a royalty on net sales, sublicense fee payments, maintenance payments and milestone payments. The prospective maintenance payments commence on the enrollment of the first patient into the first Phase 2B clinical trial and increase upon the successful completion of the Phase 2B clinical trial. As the Company does not at this time anticipate scheduling a Phase 2B clinical trial in the near term, no maintenance payments to the University of Alberta are currently due and payable, nor are any maintenance payments expected to be due in the near future in connection with the license agreement.

University of Illinois 2014 Exclusive License Agreement

On June 27, 2014, the Company entered into an Exclusive License Agreement (the "2014 License Agreement") with the University of Illinois, the material terms of which were similar to a License Agreement between the parties that had been previously terminated on March 21, 2013. The 2014 License Agreement became effective on September 18, 2014, upon the completion of certain conditions set forth in the 2014 License Agreement, including: (i) the payment by the Company of a $25,000 licensing fee, (ii) the payment by the Company of outstanding patent costs aggregating $15,840, and (iii) the assignment to the University of Illinois of rights the Company held in certain patent applications, all of which conditions were fulfilled.

The 2014 License Agreement granted the Company (i) exclusive rights to several issued and pending patents in numerous jurisdictions and (ii) the non-exclusive right to certain technical information that is generated by the University of Illinois in connection with certain clinical trials as specified in the 2014 License Agreement, all of which relate to the use of cannabinoids for the treatment of sleep related breathing disorders. The Company is developing dronabinol (Δ9-tetrahydrocannabinol), a cannabinoid, for the treatment of OSA, the most common form of sleep apnea.

The 2014 License Agreement provides for various commercialization and reporting requirements commencing on June 30, 2015. In addition, the 2014 License Agreement provides for various royalty payments, including a royalty on net sales of 4%, payment on sub-licensee revenues of 12.5%, and a minimum annual royalty beginning in 2015 of $100,000, which is due and payable on December 31 of each year beginning on December 31, 2015. The 2015 minimum annual royalty of $100,000 was paid as scheduled in December 2015 and 2016. In the year after the first application for market approval is submitted to the FDA and until approval is obtained, the minimum annual royalty will increase to $150,000. In the year after the first market approval is obtained from the FDA and until the first sale of a product, the minimum annual royalty will increase to $200,000. In the year after the first commercial sale of a product, the minimum annual royalty will increase to $250,000. During the three months ended March 31, 2017 and 2016, the Company recorded a charge to operations of $25,000 with respect to its minimum annual royalty obligation, which is included in research and development expenses in the Company's condensed consolidated statement of operations for the three months ended March 31, 2017 and 2016.

The 2014 License Agreement also provides for certain one-time milestone payments. A payment of $75,000 is due within five days after any one of the following: (a) dosing of the first patient with a product in a Phase 2 human clinical study anywhere in the world that is not sponsored by the University of Illinois, (b) dosing of the first patient in a Phase 2 human clinical study anywhere in the world with a low dose of dronabinol, or (c) dosing of the first patient in a Phase 1 human clinical study anywhere in the world with a proprietary reformulation of dronabinol. A payment of $350,000 is due within five days after dosing of the first patient with a product in a Phase 3 human clinical trial anywhere in the world. A payment of $500,000 is due within five days after the first new drug application filing with the FDA or a foreign equivalent for a product. A payment of $1,000,000 is due within 12 months after the first commercial sale of a product.

Research Contract with the University of Alberta

On January 12, 2016, the Company entered into a Research Contract with the University of Alberta in order to test the efficacy of ampakines at a variety of dosage and formulation levels in the potential treatment of Pompe Disease, apnea of prematurity and spinal cord injury, as well as to conduct certain electrophysiological studies to explore the ampakine mechanism of action for central respiratory depression. There were no amounts payable under this agreement as of March 31, 2017. In 2016, the Company agreed to pay the University of Alberta total consideration of approximately CAD$146,000 (as of March 31, 2017, approximately US$110,000). This consisted of approximately CAD$85,000 of personnel funding in cash in four installments during 2016, to provide approximately CAD$21,000 in equipment, to pay patent costs of CAD$20,000, and to underwrite additional budgeted costs of CAD$20,000. As of March 31, 2016, CAD$85,000 (then approximately US$66,000) was payable through September 1, 2016 under this agreement. The conversion to US dollars above utilizes an exchange rate at March 31, 2017 of $0.75 and as of March 31, 2016, of US$0.77 for every CAD$1.00.

The University of Alberta will receive matching funds through a grant from the Canadian Institutes of Health Research in support of the research. The Company will retain the rights to research results and any patentable intellectual property generated by the research. Dr. John Greer, Chairman of the Company's Scientific Advisory Board and faculty member of the Department of Physiology, Perinatal Research Centre and Women & Children's Health Research Institute, and Alberta Innovates - Health Sciences Senior Scientist with the Neuroscience and Mental Health Institute at the University of Alberta, will collaborate on this research.

Duke University Clinical Trial Agreement

On January 27, 2015, the Company entered into a Clinical Study and Research Agreement (the "Agreement") with Duke University to develop and conduct a protocol for a program of clinical study and research at a total cost of $50,579, which was completed in March 2015 and charged to research and development expenses during the three months ended March 31, 2015. On October 30, 2015, the Agreement was amended to provide for additional services with respect to the Company's Phase 2A clinical trial of CX1739. The study was completed in 2016. During the three month period ended March 31, 2017, the Company charged $0 to research and development expenses with respect to work conducted pursuant to the amended Agreement as compared to $151,150 for the three months ended March 31, 2016.

Sharp Clinical Services, Inc. Agreement

On August 31, 2015, the Company entered into an agreement with Sharp Clinical Services, Inc. to provide packaging, labeling, distribution and analytical services for the Company with respect to CX1739 at a budgeted cost of $109,833, of which the remainder of such services of $45,041 is expected to be provided in 2017.

Summary of Principal Cash Obligations and Commitments

The following table sets forth the Company's principal cash obligations and commitments for the next five fiscal years as of March 31, 2017 aggregating $1,958,200 at March 31, 2017. Amounts included in the 2017 column represent amounts contractually due at March 31, 2017 during the remainder of the 2017 fiscal year ending December 31, 2017.

		Payments Due By Year				
	Total	**2017**	**2018**	**2019**	**2020**	**2021**
Research and development contracts	$ —	$ —	$ —	$ —	$ —	$ —
Clinical trial agreements	—	—	—	—	—	—
License agreements	475,000	75,000	100,000	100,000	100,000	100,000
Employment and consulting agreements*	1,483,200	741,600	741,600		—	—
Total	$ 1,958,200	$ 816,600	$ 841,600	$ 100,000	$ 100,000	$ 100,000

*The payment of such amounts is subject to the Company reaching certain financing milestones, as described above.

Off-Balance Sheet Arrangements

At March 31, 2017, the Company did not have any transactions, obligations or relationships that could be considered off-balance sheet arrangements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

Not applicable.

ITEM 4. CONTROLS AND PROCEDURES

(a) Evaluation of Disclosure Controls and Procedures

The Company maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") that are designed to ensure that information required to be disclosed in the reports that the Company files with the Securities and Exchange Commission (the "SEC") under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, to allow for timely decisions regarding required disclosures.

The Company carried out an evaluation, under the supervision and with the participation of its management, consisting of its principal executive officer and principal financial officer, of the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act). Based upon that evaluation, the Company's principal executive officer and principal financial officer concluded that, as of the end of the period covered in this report, the Company's disclosure controls and procedures were not effective to ensure that information required to be disclosed in reports filed under the Exchange Act is recorded, processed, summarized and reported within the required time periods and is accumulated and communicated to the Company's management, consisting of the Company's principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure. The Company failed to complete and file various periodic reports in 2012, 2013 and 2014 in a timely manner because the Company's accounting and financial staff had resigned by October 26, 2012 and its financial and accounting systems had been shut-down at December 31, 2012.

Current management, which joined the Company in March and April 2013, has been focusing on developing replacement controls and procedures that are adequate to ensure that information required to be disclosed in reports filed under the Exchange Act is recorded, processed, summarized and reported within the required time periods and is accumulated and communicated to the Company's management, consisting of the Company's principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure. Current management has instituted a program to reestablish the Company's accounting and financial staff and install new accounting and internal control systems, and has retained accounting personnel, established accounting and internal control systems, addressed the preparation of delinquent financial statements, and worked diligently to bring delinquent SEC filings current as promptly as reasonably possible under the circumstances. The Company is now current in its SEC periodic reporting obligations, but as of the date of the filing of this Quarterly Report on Form 10-Q, the Company had not yet completed the process to establish adequate internal controls over financial reporting. In February 2017, the Company's Chief Financial Officer resigned and one of the existing officers was appointed Interim Chief Financial Officer. The Company has not completed its search for a permanent replacement.

The Company's management, consisting of its principal executive officer and principal financial officer, does not expect that its disclosure controls and procedures or its internal controls will prevent all error or fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Furthermore, the design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Due to the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Management believes that the financial statements included in this report fairly present, in all material respects, the Company's financial condition, results of operations and cash flows for the periods presented.

(b) Changes in Internal Controls over Financial Reporting

The Company's management, consisting of its principal executive officer and principal financial officer, has determined that no change in the Company's internal control over financial reporting (as that term is defined in Rules 13(a)-15(f) and 15(d)-15(f) of the Securities Exchange Act of 1934), other than the resignation of the Company's Chief Financial Officer and appointment of its Interim Chief Financial Officer as discussed above, occurred during or subsequent to the end of the period covered in this report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II - OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

By letter dated November 11, 2014, a former director of the Company, who joined the Company's Board of Directors on August 10, 2012 in conjunction with the Pier transaction and who resigned from the Company's Board of Directors on September 28, 2012, asserted a claim for unpaid consulting compensation of $24,000. The Company has not received any further communications from the former director with respect to this matter.

By letter dated February 5, 2016, the Company received a demand from a law firm representing a professional services vendor of the Company alleging an amount due and owing for unpaid services rendered. On January 18, 2017, following an arbitration proceeding, an arbitrator awarded the vendor the full amount sought in arbitration of $146,082. Additionally, the arbitrator granted the vendor attorneys' fees and costs of $47,930. All such amounts have been accrued at March 31, 2017 and December 31, 2016.

By e-mail dated July 21, 2016, the Company received a demand from an investment banking consulting firm that represented the Company in 2012 in conjunction with the Pier transaction alleging that $225,000 is due and owing for unpaid investment banking services rendered. The Company has been in discussions with this firm regarding this matter.

The Company is periodically the subject of various pending and threatened legal actions and claims. In the opinion of management of the Company, adequate provision has been made in the Company's condensed consolidated financial statements at March 31, 2017 and December 31, 2016 with respect to such matters, including, specifically, the matters noted above. The Company intends to vigorously defend itself if any of the matters described above results in the filing of a lawsuit or formal claim.

ITEM 1A. RISK FACTORS

As of the date of this filing, there have been no material changes to the Risk Factors included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, as filed with the SEC on March 31, 2017 (the "2016 Form 10-K"). The Risk Factors set forth in the 2016 Form 10-K should be read carefully in connection with evaluating the Company's business and in connection with the forward-looking statements contained in this Quarterly Report on Form 10-Q. Any of the risks described in the 2016 Form 10-K could materially adversely affect the Company's business, financial condition or future results and the actual outcome of matters as to which forward-looking statements are made. These are not the only risks that the Company faces. Additional risks and uncertainties not currently known to the Company or that the Company currently deems to be immaterial also may materially adversely affect the Company's business, financial condition and/or operating results.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On March 10, 2017 and March 28, 2017, the Company sold units to investors for aggregate gross proceeds of $350,000, with each unit consisting of one share of the Company's common stock and one common stock purchase warrant to purchase one share of the Company's common stock. Units were sold for $2.50 per unit and the warrants issued in connection with the units are exercisable at a fixed price $2.75 per share of the Company's common stock. The warrants contain a cashless exercise provision and certain blocker provisions preventing exercise during periods of time when the investor would beneficially own more than 4.99% of the Company's outstanding shares of common stock if such exercise were to occur. The warrants are also subject to redemption by the Company at $0.001 per share upon ten (10) days written notice if the Company's common stock closes at 200% or more of the unit purchase price for any five (5) consecutive trading days. Investors received an unlimited number of piggy-back registration rights. Investors received an unlimited number of exchange rights, which are options and not obligations, to exchange such investor's entire investment (and not less than the entire investment) into one or more subsequent equity financings (consisting solely of convertible preferred stock or common stock or units containing preferred stock or common stock and warrants exercisable only into preferred stock or common stock) that would be considered as "permanent equity" under United States Generally Accepted Accounting Principles and the rules and regulations of the United States Securities and Exchange Commission, and therefore classified as stockholders' equity, and excluding any form of debt or convertible debt (each such financing a "Subsequent Equity Financing"). These exchange rights are effective until the earlier of: (i) the completion of any number of subsequent financings aggregating at least $15 million gross proceeds to the Company, or (ii) December 30, 2017. The dollar amount used to determine the amount invested or exchanged into the subsequent financing will be 1.2 times the amount of the original investment. Under certain circumstances, the ratio may be 1.4 instead of 1.2. The exchange right does not permit the investors to exchange into a debt offering. The closing market prices of the Company's common stock on March 10, 2017 and March 28, 2017 were $4.05 and $3.80 respectively.

Investors were non-affiliated purchasers. The offer and sale of the shares of common stock and the warrants in the private placement were made in reliance on the exemption from registration afforded by Section 4(a)(2) of the Securities Act as provided in Rule 506(b) of Regulation D promulgated thereunder.

On January 17, 2017, the Board of Directors of the Company awarded stock options for a total of 395,000 shares of common stock in various quantities to seventeen individuals and entities who are members of management, the Company's Scientific Advisory Board, independent members of the Board of Directors, or outside service providers pursuant to the Company's 2015 Plan. The stock options vested 25% upon grant, 25% on March 31, 2017, and an additional 50% on June 30, 2017, and will expire on January 17, 2022. The exercise price of the stock options was established on the grant date at $3.90 per share, which was the closing market price of the Company's common stock on such date. The aggregate grant date fair value of these stock options, as calculated pursuant to the Black-Scholes option-pricing model, was $1,464,305. During the three months ended March 31, 2017, the Company recorded a charge to operations of $721,042 with respect to these stock options.

Additional information with respect to the transactions described above is provided in the Notes to the Condensed Consolidated Financial Statements for the three months ended March 31, 2017 and 2016.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Note Payable to SY Corporation Co., Ltd.

On June 25, 2012, the Company borrowed 465,000,000 Won (the currency of South Korea, equivalent to approximately $400,000 United States Dollars) from and executed a secured note payable to SY Corporation Co., Ltd., formerly known as Samyang Optics Co. Ltd. ("Samyang"), an approximately 20% common stockholder of the Company at that time. Samyang was a significant stockholder and a related party at the time of the transaction, but was not considered a significant stockholder or related party at March 31, 2017. The note accrues simple interest at the rate of 12% per annum and had a maturity date of June 25, 2013. The Company has not made any payments on the promissory note. At June 30, 2013 and subsequently, the promissory note was outstanding and in technical default, although Samyang has not issued a notice of default or a demand for repayment. The Company believes that Samyang is in default of its obligations under its January 2012 license agreement, as amended, with the Company, but the Company has not yet issued a notice of default. The Company is continuing efforts towards a comprehensive resolution of the aforementioned matters involving Samyang.

Note payable to Samyang consists of the following at March 31, 2017 and December 31, 2016:

	March 31, 2017	December 31, 2016
Principal amount of note payable	$ 399,774	$ 399,774
Accrued interest payable	231,191	219,362
Foreign currency transaction adjustment	(1,707)	(25,129)
	$ 629,258	$ 594,007

Interest expense with respect to this promissory note was $11,829 and $11,961 for the three months ended March 31, 2017 and 2016, respectively.

Default on Convertible Notes Payable

On September 15, 2016, the remaining outstanding Notes previously issued by the Company on November 5, 2014, December 9, 2014, December 31, 2014, and February 2, 2015, matured and the principal and accrued interest under those remaining Notes became due and payable upon demand. At the September 15, 2016 maturity date, Notes totaling $329,261, which included accrued interest of $53,261, became due and payable upon demand. During October 2016, holders of four Notes totaling $73,004, which included accrued interest of $12,004 at September 30, 2016, issued formal notices of default, and as a result, those four Notes were deemed to be in default under the terms of the Notes and began to accrue interest at the default rate of 12% per annum from the default date in accordance with the terms of the Notes. At March 31, 2017, the amount owed on the Notes in default was $77,529, including principal and interest.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

A list of exhibits required to be filed as part of this report is set forth in the Index to Exhibits, which is presented elsewhere in this document, and is incorporated herein by reference.

SIGNATURES

In accordance with the requirements of the Securities and Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

RESPIRERX PHARMACEUTICALS INC.
(Registrant)

Date: May, 19, 2017

By: */s/ James S. Manuso*
James S. Manuso
President and Chief Executive Officer

Date: May, 19, 2017

By: */s/ Jeff Eliot Margolis*
Jeff Eliot Margolis
Vice President, Treasurer, Secretary and Interim Chief Financial Officer

INDEX TO EXHIBITS

The following documents are filed as part of this report:

Exhibit Number	Description of Document
10.1	Form of Purchase Agreement (including the Form of Warrant) incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed March 16, 2017.
10.2	First Amendment of the Amended and Restated RespireRx Pharmaceuticals Inc. 2015 Stock and Stock Option Plan incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed January 17, 2017.
31.1*	Officer's Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Officer's Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Officer's Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Officer's Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS**	XBRL Instance Document
101.SCH**	XBRL Taxonomy Extension Schema Document
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document

* Filed herewith.

** In accordance with Regulation S-T, the XBRL related information on Exhibit No. 101 to this Quarterly Report on Form 10-Q shall be deemed "furnished" herewith not "filed."

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, James S. Manuso, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of RespireRx Pharmaceuticals Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)), for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 19, 2017

By: */s/ James S. Manuso*
James S. Manuso
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeff Eliot Margolis, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of RespireRx Pharmaceuticals Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)), for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 19, 2017

By: */s/ Jeff Eliot Margolis*
Jeff Eliot Margolis
Interim Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
UNDER SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, James S. Manuso, the Chief Executive Officer of RespireRx Pharmaceuticals Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

(i) The Quarterly Report on Form 10-Q of the Company for the quarterly period ended March 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and

(ii) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: May 19, 2017

By: */s/ James S. Manuso*
James S. Manuso
Chief Executive Officer

EXHIBIT 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
UNDER SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeff Eliot Margolis, the Chief Financial Officer of RespireRx Pharmaceuticals Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

(i) The Quarterly Report on Form 10-Q of the Company for the quarterly period ended March 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and

(ii) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: May 19, 2017

By: */s/ Jeff Eliot Margolis*
Jeff Eliot Margolis
Interim Chief Financial Officer