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, 2019

[ ] 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)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
N/A	N/A	N/A

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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit 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 [ ]

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 14, 2019, the Company had 3,872,076, shares of common stock, $0.001 par value, issued and outstanding.

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

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Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q of RespireRx Pharmaceuticals Inc. ("RespireRx" or 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 future plans, targets, estimates, assumptions, 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.

In some cases, forward-looking statements may be identified by words including "anticipates," "believes," "intends," "estimates," "expects," "plans," "contemplates," "targets," "continues," budgets," "may," and similar expressions and such statements may 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, (iv) reorganization plans, and (v) 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, regulatory and competitive conditions, collaborations with third parties, 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, interest of third parties in collaborations with us, 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, 2018, including the section entitled "Item 1A. Risk Factors." Forward-looking statements speak only as of the date they are made. The Company does not undertake and specifically declines any obligation to update any forward-looking statements or to publicly announce the results of any revisions to any statements to reflect new information or future events or developments.

PART I - FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2019 (unaudited)	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 5,498	$ 33,284
Advance payment on research contract	48,912	48,912
Prepaid expenses, including current portion of long-term prepaid insurance of $14,322 at March 31, 2019 and 14,495 at December 31, 2018	90,364	38,880
Total current assets	144,774	121,076
Long-term prepaid insurance, net of current portion of $14,322 at March 31, 2019 and $14,945 at December 31, 2018	-	3,114
Total assets	$ 144,774	$ 124,190
LIABILITIES AND STOCKHOLDERS' DEFICIENCY		
Current liabilities:		
Accounts payable and accrued expenses, including $472,711 and $400,229 payable to related parties at March 31, 2019 and December 31, 2018, respectively	$ 3,441,681	$ 3,303,120
Accrued compensation and related expenses	1,499,734	1,304,434
Convertible notes payable, currently due and payable on demand, including accrued interest of $70,478 and $62,635 at March 31, 2019 and December 31, 2018, respectively ($40,518 and $38,292, including accrued interest of $16,143 and $13,292, was deemed to be in default at March 31, 2019 and December 31, 2018, respectively and $20,928 and $27,969 of original issue discount at March 31, 2019 (Note 4))	364,550	239,666
Note payable to SY Corporation, including accrued interest of $327,136 and $315,307 at March 31, 2019 and December 31, 2018, respectively (payment obligation currently in default – Note 4)	741,627	744,441
Notes payable to officer, including accrued interest of $27,649 and $25,116 as of March 31, 2019 and December 31, 2018, respectively (Note 4)	105,249	102,716
Notes payable to former officer, including accrued interest of $30,362 and $26,561 as of March 31, 2019 and December 31, 2018, respectively (Note 4)	157,962	154,161
Other short-term notes payable	61,746	8,907
Total current liabilities	6,372,549	5,857,445
Commitments and contingencies (Note 8)		
Stockholders' deficiency: (Note 6)		
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: 3,872,076 at March 31, 2019 and December 31, 2018, respectively (Note 2)	3,872	3,872
Additional paid-in capital	158,681,034	158,635,222
Accumulated deficit	(164,934,384)	(164,394,052)
Total stockholders' deficiency	(6,227,775)	(5,733,255)
Total liabilities and stockholders' deficiency	$ 144,774	$ 124,190

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,	
	2019	**2018**
Operating expenses:		
General and administrative, including $121,200 and $207,594 to related parties for the three-months ended March 31, 2019 and 2018, respectively	324,513	354,843
Research and development, including $122,400 and $122,509 to related parties for the three-months ended March 31, 2019 and 2018, respectively	149,350	151,334
Total operating costs and expenses	473,863	506,177
Loss from operations	(473,863)	(506,177)
Loss on extinguishment of debt in exchange for equity	-	(66,782)
Interest expense, including $2,533 and $2,808 to related parties for the three-months ended March 31, 2019 and 2018, respectively	(81,112)	(27,273)
Foreign currency transaction gain (loss)	14,643	(146,446)
Net loss attributable to common stockholders	$ (540,332)	$ (746,678)
Net loss per common share - basic and diluted	$ (0.14)	$ (0.24)
Weighted average common shares outstanding - basic and diluted	3,872,076	3,085,263

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, 2019

	Series B Convertible Preferred Stock		Common Stock		Additional P aid-in Capital	Accumulated Deficit	Total Stockholders' Deficiency
	Shares	Amount	Shares	Par Value			
Balance, December 31, 2018	37,500	$ 21,703	3,872,076	$ 3,872	$ 158,635,222	$ (164,394,052)	$ (5,733,255)
Fair value of common stock warrants issued in connection with convertible notes	-	-	-	-	45,812	-	45,812
Net loss						(540,332)	(540,332)
Balance, March 31, 2019	37,500	$ 21,703	3,872,076	$ 3,872	$ 158,681,034	$ (164,934,384)	$ (6,227,775)

Three-months Ended March 31, 2018

	Series B Convertible Preferred Stock		Common Stock		Additional P aid-in Capital	Accumulated Deficit	Total Stockholders' Deficiency
	Shares	Amount	Shares	Par Value			
Balance, December 31, 2017	37,500	$ 21,703	3,065,261	$ 3,065	$ 157,422,110	$ (161,802,262)	$ (4,355,384)
Fair value of common stock options issued to consultants					14,474		14,474
Common stock issued related to extinguishment of convertible notes			58,071	58	110,277		110,335
Net loss						(746,678)	(746,678)
Balance, March 31, 2018	37,500	$ 21,703	3,123,332	$ 3,123	$ 157,546,861	$ (162,548,940)	$ (4,977,253)

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,	
	2019	**2018**
Cash flows from operating activities:		
Net loss	$ (540,332)	$ (746,678)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of original issue discount to interest expense	52,851	-
Loss on extinguishment of convertible debt	-	66,782
Stock-based compensation and fees included in -		
General and administrative expenses	-	14,474
Foreign currency transaction (gain) loss	(14,643)	146,446
Changes in operating assets and liabilities:		
(Increase) decrease in -		
Prepaid expenses	(48,370)	(54,021)
Increase (decrease) in -		
Accounts payable and accrued expenses	138,561	126,942
Accrued compensation and related expenses	195,300	278,950
Accrued interest payable	78,847	27,083
Net cash used in operating activities	(137,786)	(140,022)
Cash flows from financing activities:		
Borrowings on short-term notes payable	110,000	55,386
Net cash provided by financing activities	110,000	55,386
Cash and cash equivalents:		
Net decrease	(27,786)	(84,636)
Balance at beginning of period	33,284	84,902
Balance at end of period	$ 5,498	$ 266

(Continued)

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(Continued)

	Three-months Ended March 31,	
	2019	**2018**
Supplemental disclosures of cash flow information:		
Cash paid for -		
Interest	$ 71	$ 190
Income taxes	$ -	$ -
Non-cash operating activity:		
Settlement of accounts payable with common stock options	$ -	$ 14,474
Non-cash financing activities:		
Short-term note payable issued in connection with financing of directors and officers insurance policy	$ 61,746	$ -
Extinguishment of Convertible Notes Payable	$ -	$ (43,522)
Issuance of common stock in exchange for extinguishment of Convertible Notes Payable	$ -	$ 110,334

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

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Three-months Ended March 31, 2019 and 2018

1. Organization and Basis of Presentation

Organization

RespireRx Pharmaceuticals Inc. ("RespireRx") was formed in 1987 under the name Cortex Pharmaceuticals, Inc. to engage in the discovery, development and commercialization of innovative pharmaceuticals for the treatment of neurological and psychiatric disorders. 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 potential products in this platform, pending additional financing and/or strategic relationships.

In August 2012, RespireRx acquired Pier Pharmaceuticals, Inc. ("Pier"), which is now its wholly-owned subsidiary.

Basis of Presentation

The condensed consolidated financial statements are of RespireRx and its wholly-owned subsidiary, Pier (collectively referred to herein as the "Company," "we" or "our," unless the context indicates otherwise). The condensed consolidated financial statements of the Company at March 31, 2019 and for the three-months ended March 31, 2019 and 2018, are unaudited. In the opinion of management, all adjustments (including normal recurring adjustments) have been made that are necessary to present fairly the condensed consolidated financial position of the Company as of March 31, 2019, the results of its condensed consolidated operations for the three-months ended March 31, 2019 and 2018, changes in its condensed consolidated statements of stockholders' deficiency for the three-months ended March 31, 2019 and 2018 and its condensed consolidated cash flows for the three-months ended March 31, 2019 and 2018. Condensed 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, 2018 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 note 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, 2018, as filed with the SEC.

2. Business

The mission of the Company is to develop innovative and revolutionary treatments to combat diseases caused by disruption of neuronal signaling. We are developing treatment options that address conditions that affect millions of people, but for which there are few or poor treatment options, including obstructive sleep apnea ("OSA"), attention deficit hyperactivity disorder ("ADHD") and recovery from spinal cord injury ("SCI"), as well as certain neurological orphan diseases such as Fragile X Syndrome. RespireRx is developing a pipeline of new drug products based on our broad patent portfolios for two drug platforms: cannabinoids, including dronabinol ("Δ9-THC"), and the ampakines, proprietary compounds that positively modulate AMPA-type glutamate receptors to promote neuronal function.

RespireRx is developing a number of potential products. From the cannabinoid platform, two Phase 2 clinical trials have been completed demonstrating the ability of dronabinol to significantly reduce the symptoms of OSA, which management believes is potentially a multi-billion-dollar market. Subject to raising sufficient financing, we believe that we have put most of the necessary pieces into place to rapidly initiate a Phase 3 clinical trial program. By way of definition, when a new drug is allowed by the United States Food and Drug Administration ("FDA") to be tested in humans, Phase 1 clinical trials are conducted in healthy people to determine safety and pharmacokinetics. If successful, Phase 2 clinical trials are conducted in patients to determine safety and preliminary efficacy. Phase 3 trials, large scale studies to determine efficacy and safety, are the final step prior to seeking FDA approval to market a drug.

From our ampakine platform, our lead clinical compounds, CX717 and CX1739, have successfully completed multiple Phase 1 safety trials. Both compounds have also completed Phase 2 efficacy trials demonstrating target engagement, by antagonizing the ability of opioids to induce respiratory depression. CX717 has completed a Phase 2 trial demonstrating the ability to significantly reduce the symptoms of adult ADHD. In an early Phase 2 study, CX1739 improved breathing in patients with central sleep apnea. Preclinical studies have highlighted the potential ability of these ampakines to improve motor function in animals with spinal injury. Subject to raising sufficient financing (of which no assurance can be provided), we believe that we will be able to rapidly initiate a human Phase 2 study with CX1739 and/or CX717 in patients with spinal cord injury and a human Phase 2B study in patients with ADHD with either CX717 or CX1739.

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 $540,332 for the three-months ended March 31, 2019 and $2,591,790 for the fiscal year ended December 31, 2018, and negative operating cash flows of $137,786 for the three-months ended March 31, 2019 and $427,368 for the fiscal year ended December 31, 2018. The Company also had a stockholders' deficiency of $6,227,775 at March 31, 2019 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, 2018, 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 extremely 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 taken steps to continue 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. The Company is evaluating certain changes to its operations and structure to facilitate raising capital from sources that may be interested in financing only discrete aspects of the Company's development programs. Such changes could include a significant reorganization, which may include the formation of one or more subsidiaries into which one or more programs may be contributed. 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.

3. 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.

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.

By letter dated May 18, 2018, the Company received notice from counsel claiming to represent TEC Edmonton and The Governors of the University of Alberta, which purports to terminate, effective December 12, 2017, the license agreement dated May 9, 2007 between the Company and The Governors of the University of Alberta. The Company, through its counsel, disputed any grounds for termination and notified the representative that it invoked Section 13 of that license agreement, which mandates a meeting to be attended by individuals with decision-making authority to attempt in good faith to negotiate a resolution to the dispute. In February 2019, the Company and TEC Edmonton tentatively agreed to terms acceptable to all parties to establish a new license agreement and the form of a new license agreement. However, the parties have not signed the draft new license agreement pending the Company's payment of the agreed amount of historical unreimbursed patent fees, of approximately CAD$23,000 (approximately US$17,000 as of December 31, 2018). No assurance can be provided that the Company will or will not be able to remit the historical license fees or that the draft new license agreement will be executed and become effective. If we do not remit the historical fees and the new license agreement does not become effective, we cannot estimate the possible adverse impact on the Company's operations or business prospects.

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. 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 and also included the assignment of rights to the University of Illinois, to certain patent applications filed by RespireRx. 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.

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 of financial instruments 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) are 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.

Convertible Notes Payable

Convertible notes are evaluated to determine if they should be recorded at amortized cost. To the extent that there are associated warrants or a beneficial conversion feature, the convertible notes and warrants are evaluated to determine if there are embedded derivatives to be identified, bifurcated and valued at fair value in connection with and at the time of such financing.

Notes Exchanges

In cases where debt or other liabilities are exchanged for equity, the Company compares the carrying value of debt, inclusive of accrued interest, if applicable, being exchanged, to the fair value of the equity issued and records any loss or gain as a result of such exchange. See Note 4. Notes Payable.

Extinguishment of Debt

The Company accounts for the extinguishment of debt in accordance with GAAP by comparing the carrying value of the debt to the fair value of consideration paid or assets given up and recognizing a loss or gain in the condensed consolidated statement of operations in the amount of the difference in the period in which such transaction occurs.

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. All equipment was fully depreciated as of March 31, 2019.

Prepaid Insurance

Long-term prepaid insurance represents the premium paid in March 2014 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. As of March 31, 2019, all such prepaid amounts have been reclassified as current since the policy will expire within one year.

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, 2019.

Stock-Based Awards

The Company periodically issues common stock and stock options to officers, directors, outside consultants and vendors 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, directors, outside consultants and vendors 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 consolidated financial statements over the vesting period of the awards.

The fair value of stock options granted as stock-based payments 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.

There were no stock or stock option grants during the three-months ended March 31, 2019.

For stock options requiring an assessment of value during the three-months ended March 31, 2018, 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	2.56%
Expected dividend yield	0%
Expected volatility	185.41%
Expected life	4.7

The Company recognizes the fair value of stock-based payments 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, 2019 and 2018.

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, 2019, 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, 2019, 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 condensed consolidated statements of operations.

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), 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, 2019, an asset 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 and recorded as general and administrative expenses.

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 loss attributable to common stockholders consists of net 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, 2019 and 2018, 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,	
	2019	**2018**
Series B convertible preferred stock	11	11
Convertible notes payable	16,893	29,957
Common stock warrants	1,874,828	1,464,415
Common stock options	4,337,609	4,012,929
Total	6,229,341	5,507,312

Reclassifications

Certain comparative figures in 2018 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 June 2018, the FASB issued Accounting Standards Update No. 2018-07 ("ASU 2018-07"), *Compensation-Stock Compensation (Topic 718)—Improvements to Nonemployee Share-Based Payment Accounting.* ASU 2018-07 are amendments to Topic 718 that become effective for public entities like the Company for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. This update applies to nonemployee share-based awards within the scope of Topic 718. Consistent with the accounting requirement for employee share-based payment awards, nonemployee share-based payment awards are measured at grant-date fair value of the equity instruments that an entity is obligated to issue when the good has been delivered or the service has been rendered and any other conditions necessary to earn the right to benefit from the instruments have been satisfied. Equity-classified nonemployee share- based payment awards are measured at the grant date. The definition of the term grant date has been amended to generally state the date at which a grantor and a grantee reach a mutual understanding of the key terms and conditions of a share- based payment award. An entity considers the probability of satisfying performance conditions when nonemployee share-based payment awards contain such conditions. This is consistent with the treatment for employee-based awards. Generally, the classification of equity- classified nonemployee share-based payment awards will continue to be subject to the requirements of Topic 718 unless modified after the good has been delivered, the service has been rendered, any other conditions necessary to earn the right to benefit from the instruments have been satisfied, and the nonemployee is no longer providing goods or services. This eliminates the requirement to reassess classification of such awards upon vesting. This standard will change the valuation of applicable awards granted in subsequent periods.

In July 2017, the FASB issued Accounting Standards Update No. 2017-11 ("ASU 2017-11"), *Earnings Per Share (Topic 260): Distinguishing Liabilities from Equity (Topic 480): Derivatives and Hedging (Topic 815)* . The relevant section for the Company is Topic 815 where it pertains to accounting for certain financial instruments with down round features. Until the issuance of this ASU, financial instruments with down round features required fair value measurement and subsequent changes in fair value were recognized in earnings. As a result of the ASU, financial instruments with down round features are no longer treated as a derivative liability measured at fair value. Instead, when the down round feature is triggered, the effect is treated as a dividend and as a reduction of income available to common shareholders in basic earnings per share. For public entities, the ASU is effective for fiscal years beginning after December 15, 2018. Early adoption is permitted including adoption in an interim period. The adoption of ASU 2017-11 is not expected to have any impact on the Company's financial statement presentation or disclosures.

4. Notes Payable

Convertible Notes Payable

On January 2, 2019, February 27, 2019, March 6, 2019 and March 14, 2019, the Company issued convertible notes ("2019 Convertible Notes") bearing interest at 10% per year. The January 2, 2019 Convertible Note matured on February 28, 2019 with a face amount of $10,000. The February 27, 2019, March 6, 2019 and March 14, 2019, 2019 Convertible Notes matured on April 30, 2019 with an aggregate face amount of $100,000. Investors also received an aggregate of 110,000 common stock purchase warrants. The warrants were valued using the Black Scholes option pricing model calculated on the date of each grant and had an aggregate value of $78,780. Total value received by the investors was $188,780, the sum of the face value of the convertible note and the value of the warrant. Therefore, the Company recorded an initial original issue discount of $45,812 and an initial value of the convertible notes of $64,188 using the relative fair value method. $24,883 of the original issue discount was amortized to interest expense through March 31, 2019. An additional $1,061 of interest expense was recorded based upon the 10% annual rate. The 2019 Convertible Note that matured on February 28, 2019 was not paid and remain outstanding and continue to accrue interest. The 2019 Convertible Notes that matured on April 30, 2019 were not paid and remain outstanding and continue to accrue interest. Although the 2019 Convertible Notes are in default, the Company has not received any notices of default from any of the note holders. The 2019 Convertible Notes have no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events other than the right, but not the obligation, for each investor to convert or exchange his or her 2019 Convertible Note, but not the warrant, into the next exempt private securities offering, which offering has not occurred as of March 31, 2019 or as of the date of the issuance of these financial statements. Therefore, the number of shares of common stock (or preferred stock) into which the 2019 Convertible Notes may convert is not determinable and the Company has not accounted for any beneficial conversion feature. The warrants to purchase 110,000 shares of common stock issued in connection with the sale of the 2019 Convertible Notes are exercisable at a fixed price of $1.50 per share of common stock, provide 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.

During December 2018, convertible notes ("2018 Convertible Notes") bearing interest at 10% per year and maturing on February 28, 2019 and warrants were sold to investors with an aggregate face amount of $80,000. Investors also received 80,000 common stock purchase warrants. The warrants were valued using the Black Scholes option pricing model calculated on the date of each grant and had an aggregate value of $68,025. Total value received by the investors was $148,025, the sum of the face value of the convertible note and the value of the warrant. Therefore, the Company recorded an initial original issue discount of $36,347 and an initial value of the convertible notes of $43,653 using the relative fair value method. $27,969 of the original issue discount was amortized to interest expense for the three-months ended March 31, 2019 and $8,379 was amortized from inception through December 31, 2018. An additional $2,000 of interest expense was recorded based upon the 10% annual rate for the three-months ended March 31, 2019 and $401 of interest expense was recorded from inception through December 31, 2018. The 2018 Convertible Notes matured on February 28, 2019, were not paid, remain outstanding and continue to accrue interest. Although the 2018 Convertible Notes are in default, the Company has not received any notices of default from any of the note holders. The 2018 Convertible Notes have no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events other than the right, but not the obligation for each investor to convert or exchange his or her 2018 Convertible Note, but not the warrant, into the next exempt private securities offering, which offering has not occurred as of March 31, 2019 or as of the date of the issuance of these financial statements. Therefore, the number of shares of common stock (or preferred stock) into which the 2018 Convertible Notes may convert is not determinable and the Company has not accounted for any beneficial conversion feature. The warrants to purchase 80,000 shares of common stock issued in connection with the sale of the 2018 Convertible Notes are exercisable at a fixed price of $1.50 per share of common stock, provide 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.

The 2018 and 2019 Convertible Notes consist of the following at March 31, 2019 and December 31, 2018:

	March 31, 2019	December 31, 2018
Principal amount of notes payable	$ 190,000	$ 80,000
Original issue discount net of amortization of $8,379	(20,928)	(27,968)
A ccrued interest payable	3,462	401
	$ 172,534	$ 52,433

C onvertible notes were also sold to investors in 2014 and 2015 ("Original Convertible Notes), which aggregated a total of $579,500, had a fixed interest rate of 10% per annum and those that remain outstanding are convertible into common stock at a fixed price of $11.3750 per share. The Original Convertible Notes have no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events. The warrants to purchase 50,945 shares of common stock issued in connection with the sale of the convertible notes were exercisable at a fixed price of $11.3750 per share. All such warrants have either been exchanged as part of April and May 2016 note and warrant exchange agreements or expired on September 15, 2016.

The maturity date of the Original Convertible Notes was extended to September 15, 2016 and included the issuance of 27,936 additional warrants to purchase common stock, exercisable at $11.375 per share of common stock, which expired on September 15, 2016.

The remaining outstanding Original Convertible Notes (including those for which default notices have been received) consist of the following at March 31, 2019 and December 31, 2018:

	March 31, 2019	December 31, 2018
Principal amount of notes payable	$ 125,000	$ 125,000
A ccrued interest payable	67,016	62,233
	$ 192,016	$ 187,233

As of March 31, 2019, principal and accrued interest on the one remaining outstanding Original Convertible Note subject to a default notice, which therefore accrues annual interest at 12% instead of 10%, totaled $40,518, of which $16,143 was accrued interest. As of December 31, 2018, principal and accrued interest on convertible notes subject to default notices totaled $38,292 of which $13,292 was accrued interest.

As of March 31, 2019, the remaining total outstanding Original Convertible Notes, inclusive of accrued interest, were convertible into 16,881 shares of the Company's common stock, including 5,892 shares attributable to accrued interest of $67,016 payable as of such date. As of December 31, 2018, the outstanding Original Convertible Notes were convertible into 16,460 shares of the Company's common stock, including 5,471 shares attributable to accrued interest of $62,233 payable as of such date. Such Original Convertible Notes will continue to accrue interest until exchanged, paid or otherwise discharged. There can be no assurance that any of the additional holders of the remaining Original Convertible Notes will exchange their notes.

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. Management 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 has in the past made several efforts towards a comprehensive resolution of the aforementioned matters involving SY Corporation. During the three-months ended March 31, 2019, there were no further communications between the Company and 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, 2019 and December 31, 2018:

	March 31, 2019	December 31, 2018
Principal amount of note payable	$ 399,774	$ 399,774
Accrued interest payable	327,136	315,307
Foreign currency transaction adjustment	14,717	29,360
	$ 741,627	$ 744,441

Interest expense with respect to this promissory note was $11,829 and $11,829 for the three-months ended March 31, 2019 and 2018, respectively.

Notes Payable to Officers and Former Officers

For the three-months ended March 31, 2019 and 2018, $2,533 and $2,255 was charged to interest expense with respect to Dr. Arnold S. Lippa's notes, respectively.

For the three-months ended March 31, 2019 and 2018, $3,801 and $2,254 was charged to interest expense with respect to Dr. James S. Manuso's notes, respectively.

As of September 30, 2018, Dr. James S. Manuso resigned as executive officer in all capacities and as a member of the Board of Directors of the Company. All of the $3,801 of interest expense noted above for the three-months ended March 31, 2019, was incurred while Dr. Manuso was no longer an officer.

Other Short-Term Notes Payable

Other short-term notes payable at March 31, 2019 and December 31, 2018 consisted of premium financing agreements with respect to various insurance policies. At March 31, 2019, a premium financing agreement was payable in the initial amount of $61,746, with interest at 9% per annum, in nine monthly installments of $7,120. At March 31, 2019 and December 31, 2018, the aggregate amount of the short-term notes payable was $61,746 and $8,907 respectively.

5. Settlement and Payment Agreements

There were no settlement or payment agreements during the three-month periods ended March 31, 2019 or 2018.

6. 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, 2019 and December 31, 2018, 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, 2019 and December 31, 2018, 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.

Series B Preferred Stock outstanding as of March 31, 2019 and 2018 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, 2019 and December 31, 2018, 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, an amount equal to its liquidation preference, at any time upon 30 days prior notice.

Common Stock

There are 3,872,076 shares of the Company's Common Stock outstanding as of March 31, 2019. After reserving an aggregate of 10,726,417 for conversions of convertible debt as well as common stock purchase options and warrants exercises, there are 50,401,507 shares of the Company's Common Stock available for future issuances.

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 4.

A summary of warrant activity for the three-months ended March 31, 2019 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Warrants outstanding at December 31, 2018	1,783,229	$ 2.20393	
Issued	110,000	1.50000	
Expired	(18,401)	5.71706	
Warrants outstanding at March 31, 2019	1,874,828	$ 2.12815	2.96
Warrants exercisable at March 31, 2019	1,874,828	$ 2.12815	2.96

The exercise prices of common stock warrants outstanding and exercisable are as follows at March 31, 2019:

Exercise Price	Warrants Outstanding (Shares)	Warrants Exercisable (Shares)	Expiration Date
$ 1.0000	916,217	916,217	September 20, 2022
$ 1.2870	41,002	41,002	April 17, 2019
$ 1.5000	190,000	190,000	December 30, 2023
$ 1.5620	130,284	130,284	December 31, 2021
$ 1.5750	238,814	238,814	April 30, 2023
$ 2.7500	8,000	8000	September 20, 2022
$ 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
$ 6.8348	145,758	145,758	September 30, 2020
$ 7.9300	86,004	86,004	February 28, 2021
	1,874, 828	1,874,828	

Based on a fair market value of $0.85000 per share on March 31, 2019, there was no intrinsic value of exercisable in-the-money common stock warrants as of March 31, 2019.

A summary of warrant activity for the three-months ended March 31, 2018 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Warrants outstanding at December 31, 2017	1,464,415	$ 2.68146	
Issued	-	-	
Warrants outstanding at March 31, 2018	1,464,415	$ 2.68146	4.59
Warrants exercisable at March 31, 2018	1,464,415	$ 2.68146	4.59

The exercise prices of common stock warrants outstanding and exercisable are as follows at March 31, 2018:

Exercise Price	Warrants Outstanding (Shares)	Warrants Exercisable (Shares)	Expiration Date
$ 1.0000	916,217	916,217	September 20, 2022
$ 1.2870	41,002	41,002	April 17, 2019
$ 1.5620	130,284	130,284	December 31, 2021
$ 2.7500	8,000	8000	September 20, 2022
$ 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
	1,464,415	1,464,415	

Based on a fair market value of $1.3100 per share on March 31, 2018, the intrinsic value of exercisable in-the-money common stock warrants was

$284,970 as of March 31, 2018.

Stock Options

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 December 9, 2017, the Board of Directors further increased the number of shares that may be issued under the 2015 Plan to 6,985,260 shares of the Company's common stock. On December 28, 2018, the Board of Directors further increased the number of shares that may be issued under the 2015 Plan to 8,985,260 shares of the Company's common stock.

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 3.

There were no grants of common stock options or of stock for the three-month period ended March 31, 2019.

The exercise prices of common stock options outstanding and exercisable were as follows at March 31, 2019:

Exercise Price	Options Outstanding (Shares)	Options Exercisable (Shares)	Expiration Date
$ 0.7000	21,677	21,677	November 21, 2023
$ 1.1200	310,388	310,388	April 5, 2023
$ 1.2500	16,762	16,762	December 7, 2022
$ 1.3500	34,000	34,000	July 28, 2022
$ 1.4500	1,849,418	1,849,418	December 9, 2027
$ 1.4500	100,000	100,000	December 9, 2027
$ 2.0000	285,000	285,000	June 30, 2022
$ 2.0000	25,000	25,000	July 26, 2022
$ 3.9000	395,000	395,000	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	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
	4,337,609	4,337,609	

There was no deferred compensation expense for the outstanding stock options at March 31, 2019.

Based on a fair market value of $0.8500 per share on March 31, 2019, the intrinsic value of exercisable in-the-money options was $3,252 as of March 31, 2019.

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, 2019.

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, 2019. As of March 31, 2019, 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 potentially 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, 2019. 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 an amendment of the Amended and Restated RespireRx Pharmaceuticals, Inc. 2015 Stock and Stock Option Plan (as amended, the "2015 Plan"). That amendment increases the shares issuable under the plan by 1,500,000, from 1,538,461 to 3,038,461. On December 9, 2017, the Board of Directors further amended the 2015 Plan to increase the number of shares that may be issued under the 2015 Plan to 6,985,260 shares of the Company's common stock. On December 28, 2018, the Board of Directors further amended the 2015 Plan to increase the number of shares that may be issued under the 2015 Plan to 8,985,260 shares of the Company's common stock.

Other than the change in the number of shares available under the 2015 Plan, no other changes were made to the 2015 Plan by these amendments noted above.

At March 31, 2019, the Company had 65,000,000 shares of common stock authorized and 3,872,076 shares of common stock issued and outstanding. Furthermore, as of March 31, 2019, the Company had reserved an aggregate of 11 shares for issuance upon conversion of the Series B Preferred Stock; 1,874,828 shares for issuance upon exercise of warrants; 4,337,609 shares for issuance upon exercise of outstanding stock options; 63,236 shares to cover equity grants available for future issuance pursuant to the Company's 2014 Equity, Equity-linked and Equity Derivative Incentive Plan; 4,427,343 shares to cover equity grants available for future issuance pursuant to the 2015 Plan; 16,893 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, 2019, the Company had an aggregate of 10,726,417 shares of common stock reserved for issuance and 50,401,507 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.

7. 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.

A description of advances and notes payable to officers is provided at Note 4.

8. Commitments and Contingencies

Pending or Threatened Legal Action and Claims

By letter dated May 18, 2018, the Company received notice from counsel claiming to represent TEC Edmonton and The Governors of the University of Alberta, which purported to terminate, effective December 12, 2017, the license agreement dated May 9, 2007 between the Company and The Governors of the University of Alberta. The Company, through its counsel, disputed any grounds for termination and notified the representative that it invoked Section 13 of that license agreement, which mandates a meeting to be attended by individuals with decision-making authority to attempt in good faith to negotiate a resolution to the dispute. In February 2019, the Company and TEC Edmonton tentatively agreed to terms acceptable to all parties to establish a new license agreement and the form of a new license agreement. However, the parties have not signed the draft new license agreement pending the Company's payment of the agreed amount of historical unreimbursed patent fees of approximately CAD$23,000 (approximately US$17,000 as of March 31, 2019). No assurance can be provided that the Company will or will not be able to remit the historical license fees or that the draft new license agreement will be executed and become effective. If we do not remit the historical fees and the new license agreement does not become effective, we cannot estimate the possible adverse impact on the Company's operations or business prospects.

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 payable for investment banking services rendered. Such amount has been included in accrued expenses at March 31, 2019 and December 31, 2018.

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 payable for 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 $47,937. All such amounts have been included in accrued expenses at March 31, 2019 and December 31, 2018, including accrued interest at 4.5% annually from February 26, 2018, the date of the judgment, through March 31, 2019, totaling $9,652 and which amounts at December 31, 2018 totaled $7,470.

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 consolidated financial statements as of March 31, 2019 and December 31, 2018 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, the Company's Senior Vice President of Research and Development since October 15, 2014, 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 that have been issued to Mr. Purcell is provided at Note 6. Cash compensation expense pursuant to this agreement totaled $37,500 for the three-months ended March 31, 2019 and 2018, which is included in research and development expenses in the Company's consolidated statements of operations for such periods.

Employment Agreements

On October 12, 2018, Dr. Lippa was named Interim President and Interim Chief Executive Officer to replace Dr. Manuso who resigned effective September 30, 2018. 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 automatically extended on September 30, 2018 and will automatically extend annually, 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 6. Cash compensation accrued pursuant to this agreement totaled $84,900 for the three-months ended March 31, 2019 and 2018, respectively, which amounts are included in accrued compensation and related expenses in the Company's consolidated balance sheet at March 31, 2019 and December 31, 2018, and in research and development expenses in the Company's consolidated statement of operations. 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 an employment agreement with Jeff E. Margolis, in his continuing role as Vice President, Secretary and Treasurer. Pursuant to the agreement, which was for an initial term through September 30, 2016 (and which automatically extended on September 30, 2016 and will automatically extend annually 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 received an annual base salary of $195,000, and is also 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 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. Mr. Margolis 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. Mr. Margolis is also entitled to be reimbursed for business expenses. Additional information with respect to the stock options granted to Mr. Margolis is provided at Note 6. Mr. Margolis' employment agreement was amended effective July 1, 2017. The employment agreement amendment called for payment in three installments in cash of the $60,000 bonus granted on June 30, 2015. A minimum of $15,000 was to be payable in cash as follows: (a) $15,000 payable in cash upon the next closing (after July 1, 2017) of any financing in excess of $100,000 (b) $15,000 payable by the end of the following month assuming cumulative closings (beginning with the closing that triggered (a)) in excess of $200,000 and (c) $30,000 payable in cash upon the next closing of any financing in excess of an additional $250,000. The conditions of (a), (b) and (c) above were met as of December 31, 2017, however Mr. Margolis has waived the Company's obligation to make any payments of the cash bonus until 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. Recurring cash compensation accrued pursuant to this amended agreement totaled $80,400 for the three-months ended March 31, 2019 and 2018 and were $321,600 for the fiscal year ended December 31, 2018. Such amounts are included in accrued compensation and related expenses in the Company's consolidated balance sheet at March 31, 2019 and December 31, 2018 respectively, and in general and administrative expenses in the Company's consolidated statement of operations.

The employment agreements between the Company and each of Dr. Lippa and Mr. Margolis (prior to the 2017 amendment), 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. Dr. Lippa and Mr. Margolis (who are each also directors of the Company), and prior to his resignation, Dr. James S. Manuso, 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 Alberta License Agreement

On May 9, 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. On May 18, 2018, the Company received a letter from counsel claiming to represent TEC Edmonton and The Governors of the University of Alberta, which purported to terminate, effective December 12, 2017, the license agreement dated May 9, 2007 (as subsequently amended) between the Company and The Governors of the University of Alberta. The Company, through its counsel, disputed any grounds for termination and notified the representative that it invoked Section 13 of that license agreement, which mandates a meeting to be attended by individuals with decision-making authority to attempt in good faith to negotiate a resolution to the dispute. In February 2019, the Company and TEC Edmonton tentatively agreed to terms acceptable to all parties to establish a new license agreement and the form of a new license agreement. However, the parties have not signed the draft new license agreement pending the Company's payment of the agreed amount of historical unreimbursed patent fees, of approximately CAD$23,000 (approximately US$17,000 as of March 31, 2019). No assurance can be provided that the Company will or will not be able to remit the historical license fees or that the draft new license agreement will be executed and become effective. If we do not remit the historical fees and the new license agreement does not become effective, we cannot estimate the possible adverse impact on the Company's operations or business prospects.

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 minimum annual royalty obligation of $100,000 due on December 31, 2018, was extended to February 28, 2019, when such payment obligation was paid by the Company. The minimum annual royalty obligation was paid as scheduled in December 2017. One-time milestone payments may become due based upon the achievement of certain development milestones. $350,000 will be due within five days after the dosing of the first patient is a Phase III human clinical trial anywhere in the world. $500,000 will be due within five days after the first NDA filing with FDA or a foreign equivalent. $1,000,000 will be due within twelve months of the first commercial sale. One-time royalty payments may also become due and payable. Annual royalty payments may also become due. In the year after the first application for market approval is submitted to the FDA or a foreign equivalent 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 or a foreign equivalent 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. For each of the three-month periods ending March 31, 2019 and 2018, 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 consolidated statements of operations for the three-months ended March 31, 2019 and 2018.

As of December 31, 2018, the Company received an extension of time to make a $100,000 payment that would have due on such date. An additional extension was granted until February 28, 2019, on which date the Company made the required payment.

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). The final amount payable in respect to this Research Contract of US$16,207 (CAD$21,222) was paid in US dollars in January 2018 and completed the payments under the contract. The conversion to US dollars above utilizes an exchange rate of approximately US$0.76 for every CAD$1.00.

The University of Alberta received matching funds through a grant from the Canadian Institutes of Health Research in support of this research. The Company retained the rights to research results and any patentable intellectual property generated by the research. Dr. John Greer, faculty member of the Department of Physiology, Perinatal Research Centre and Women & Children's Health Research Institute at the University of Alberta collaborated on this research. The studies were completed in 2016.

See "University of Alberta License Agreement" above for more information on the related license agreement.

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, 2019, aggregating $805,600. License agreement amounts included in the 2019 column represents amounts contractually due from April 1, 2019 through December 31, 2019 (nine months) and in each of the subsequent years, represents the full year. Employment agreement amounts included in the 2019 column represent amounts contractually due at from April 1, 2019 through September 30, 2019 (six months) when such contracts expire unless extended pursuant to the terms of the contracts.

		Payments Due By Year				
	Total	2019	2020	2021	2022	2023
License agreements	$ 475,000	$ 75,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Employment agreements (1)	330,600	330,600	-	-	-	-
Total	$ 805,600	$ 405,600	$ 100,000	$ 100,000	$ 100,000	$ 100,000

(1) The payment of such amounts has been deferred indefinitely, as described above at "Employment Agreements." The 2019 amounts include six-months of employment agreement obligations for Dr. Lippa and Mr. Margolis as their employment contracts renewed on September 30, 2018 and the 2019 obligations include the six months of obligations through September 30, 2019.

9. Subsequent Events

Arnold S. Lippa, the Company's Interim Chief Executive Officer, Interim President and Chief Scientific Officer extended credit to the Company on April 15, 2019 for operating expenses by making a payment of $25,000 to the Company's auditors which amount has been accounted for by the Company as an advance by Dr. Lippa payable on demand. The balance of the amount payable to the auditors has been paid directly by the Company.

On April 24, 2019, the Company issued a new convertible note for $58,500 in face amount, payable on April 24, 2020 and bearing interest at a rate equal to 12% per annum, with any amount of principal or interest which is not paid when due bearing interest at the rate of 22% per annum. At any time during the period beginning on the date that is 180 days following the date of the note and ending on the later of (i) April 24, 2020 and (ii) the date of payment of the Default Amount (as defined in the note), any outstanding and unpaid amount of the note may be converted into shares of the Company's common stock or securities convertible into the Company's common stock, provided that such conversion would not result in the lender beneficially owning more than 4.99% of the Company's common stock. The note also contains provisions that permit the Company to prepay the note inclusive of accrued interest. Upon such conversion, the note would be deemed repaid and terminated.

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

The following discussion and analysis should be read in conjunction with the condensed consolidated financial statements (unaudited) and notes related thereto appearing elsewhere in this document.

Overview

The mission of RespireRx Pharmaceuticals Inc. ("RespireRx," the "Company," "we" or "our") is to develop innovative and revolutionary treatments to combat diseases caused by disruption of neuronal signaling. We are developing treatment options that address conditions that affect millions of people, but for which there are few or poor treatment options, including obstructive sleep apnea ("OSA"), attention deficit hyperactivity disorder ("ADHD") and recovery from spinal cord injury ("SCI"), as well as certain neurological orphan diseases such as Fragile X Syndrome. RespireRx is developing a pipeline of new drug products based on our broad patent portfolios for two drug platforms: ampakines, proprietary compounds that positively modulate AMPA-type glutamate receptors to promote neuronal function and cannabinoids, including dronabinol ("Δ9-THC").

Ampakines

Since its formation in 1987, the Company has been engaged in the research and clinical development of a class of proprietary compounds known as ampakines, a term used to designate their actions as positive allosteric modulators of the alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid ("AMPA") glutamate receptor. Ampakines are small molecule compounds that enhance the excitatory actions of the neurotransmitter glutamate at the AMPA receptor complex, which mediates most excitatory transmission in the central nervous system ("CNS"). These drugs do not have agonistic or antagonistic properties but instead positively modulate the receptor rate constants for transmitter binding, channel opening, and desensitization. We currently are developing two lead clinical compounds, CX717 and CX1739, and one pre-clinical compound, CX1942. These compounds belong to a new class of ampakines that do not display the electrophysiological and biochemical effects that lead to undesirable side effects, namely convulsive activities, 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 patent applications claiming the use of ampakines in the treatment of certain neurological and neuropsychiatric disorders, such as Attention Deficit Hyperactivity Disorder ("ADHD") have been or are expected to be filed in the near future.

In 2007, we determined that expansion of our strategic development into the areas of central respiratory dysfunction, including drug-induced respiratory dysfunction, represented cost-effective opportunities for potentially rapid development and commercialization of RespireRx's compounds. 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 central and drug-induced respiratory disorders.

On May 18, 2018, the Company received a letter from counsel claiming to represent TEC Edmonton and The Governors of the University of Alberta that purported to terminate, effective December 12, 2017, the license agreement dated May 9, 2007 (as subsequently amended) between the Company and The Governors of the University of Alberta. The Company, through its counsel, disputed any grounds for termination and notified the representative that it invoked Section 13 of that license agreement, which mandates a meeting to be attended by individuals with decision-making authority to attempt in good faith to negotiate a resolution to the dispute. In February 2019, the Company and TEC Edmonton tentatively agreed to terms acceptable to all parties to establish a new license agreement and the form of a new license agreement. However, the parties have not signed the draft new license agreement pending the Company's payment of the agreed amount of historical unreimbursed patent fees of approximately CAD$23,000 (approximately US$17,000 as of December 31, 2018). No assurance can be provided that the Company will or will not be able to remit the historical license fees or that the draft new license agreement will be executed and become effective. If we do not remit the historical fees and the new license agreement does not become effective, we cannot estimate the possible adverse impact on the Company's operations or business prospects.

Through an extensive translational research effort from the cellular level through Phase 2 clinical trials, the Company has developed a family of novel, low impact ampakines, including CX717, CX1739 and CX1942 that have clinical application in the treatment of neurobehavioral disorders, CNS-driven respiratory disorders, spinal cord injury, neurological diseases, and orphan indications. We have been addressing CNS-driven respiratory disorders that affect millions of people, but for which there are few treatment options and limited drug therapies, including opioid induced respiratory disorders, such as apnea (transient cessation of breathing) or hypopnea (transient reduction in breathing). When these symptoms become severe, as in opioid overdose, they are the primary cause of opioid lethality.

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 altering the analgesic effects of the opioids or the anesthetic effects of the anesthetics. The results of our preclinical research studies have been replicated in three separate Phase 2A human clinical trials with two ampakines, CX717 and CX1739, confirming the translational mechanism and target site engagement and demonstrating proof of principle that ampakines act as positive allosteric modulators of AMPA receptors in humans and can be used in humans for the prevention of opioid induced apnea. 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 OSA.

RespireRx is committed to advancing the ampakines through the clinical and regulatory path to approval and commercialization. Until recently, RespireRx has focused on the ampakines' ability to antagonize opioid induced respiratory depression both as a translational tool to verify target engagement, as well as an eventual commercial indication. We believe the loss of over 70,000 lives in our country last year alone demands that new solutions for opioid induced deaths be developed to ensure the public health.

To this end, the Company has conducted preclinical and clinical research with CX1739, CX717 and CX1942 in the prevention, treatment, and management of opioid induced apnea, the primary cause of overdose deaths. In particular, we have conducted several Phase 2 clinical trials demonstrating that both CX717 and CX1739 significantly reduced opioid induced respiratory depression ("OIRD") without altering analgesia. Since one of the primary risk factors for opioid overdose is CSA, it is significant that a Phase 2A clinical study with CX1739 produced data suggesting a possible reduction in central sleep apnea.

Because there are neither drugs nor devices approved to treat CSA, Company management believes there is the potential for a rapid path to commercialization. Unfortunately, rather than support novel approaches for opioid treatment, the recent public and governmental discourses regarding the "opioid epidemic" has focused almost entirely on the distribution of naloxone, an opioid antagonist used for acute emergency situations, so-called "non-abuseable" opioid formulations, as well as on means of reducing opioid consumption by limiting production of opioids and access to legal opioid prescriptions. It remains to be seen whether these approaches will have an impact on the situation. Nevertheless, as a result, we believe that there is an ongoing industry-wide pullback from opioids, as evidenced by a reduction in opioid prescriptions and a major reduction in manufacturing by two of the largest opioid manufactures in the United States.

These factors have made it difficult to raise capital or find strategic partners for the development of ampakines for the treatment of opioid induced respiratory depression and we are assessing whether to continue with this program. In addition, as noted above, we have been notified by the University of Alberta ("TEC Edmonton") that they consider our license agreement to be terminated and we are in discussions with them to determine whether and under what conditions a resolution to the dispute can be achieved. At the present time, we are suspending the development of this program until we reach an understanding with the University of Alberta, the political climate is clarified and we are able to either raise funding or enter into a strategic relationship for this purpose. Nevertheless, the valuable data derived from these translational studies have established antagonism of OIRD as a biomarker for demonstrating proof of principle and target engagement in support of continued ampakine development for other indications.

In addition, the Company is pursuing potentially promising clinical development programs in neuro-behavioral and cognitive disorders, with translational and clinical research programs focused on the use of ampakines for the treatment of ADHD and, together with our academic collaborators, for motor impairment resulting from SCI and for Fragile X Autism.

ADHD is one of the most common neurobehavioral disorders, with 6.1% of American children taking medication for treatment, and ADHD is estimated to affect 7.8% of U.S. children aged 4 to 17 according to the U.S. Centers for Disease Control and Prevention ("CDC"), or approximately 4.5 million children. The principal characteristics of ADHD are inattention, hyperactivity and impulsivity. ADHD symptoms are known to persist into adulthood. In a study published in *Psychiatry Res in May 2010,* up to 78% of children affected by this disorder showed at least one of the major symptoms of ADHD when followed up 10 years later. According to the CDC, approximately 4% of the US adult population has ADHD, which can negatively impair many aspects of daily life, including home, school, work and interpersonal relationships.

Currently available treatments for ADHD include amphetamine-type stimulants and non-stimulant agents targeting the monoaminergic receptor systems in the brain. However, these receptors are not restricted to the brain and are widely found throughout the body. Thus, while these agents can be effective in ameliorating ADHD symptoms, they also can produce adverse cardiovascular effects, such as increased heart rate and blood pressure. Existing treatments also affect eating habits and can reduce weight gain and growth in children and have been associated with suicidal ideation in adolescents and adults. In addition, approved stimulant treatments are DEA classified as controlled substances and present logistical issues for distribution and protection from diversion. Approved non-stimulant treatments, such as atomoxetine, can take four to eight weeks to become effective and undesirable side effects have been observed.

Various investigators have generated data supporting the concept that alterations in AMPA receptor function might underlie the production of some of the symptoms of ADHD. In rodent and primate models of cognition, ampakines have been demonstrated to reduce inattention and impulsivity, two of the cardinal symptoms of ADHD. Furthermore, ampakines do not stimulate spontaneous locomotor activity in either mice or rats, unlike the stimulants presently used for the treatment of ADHD, nor do they increase the stimulation produced by amphetamine or cocaine. These preclinical considerations prompted us to conduct a randomized, double-blind, placebo controlled, two period crossover study to assess the efficacy and safety of CX717 in adults with ADHD.

In a repeated measures analysis, a statistically significant treatment effect on ADHD Rating Scale (ADHD-RS), the primary outcome measure, was observed after a three-week administration of CX717, 800 mg BID. Differences between this dose of CX717 and placebo were seen as early as week one of treatment and continued throughout the remainder of the study. The low dose of CX717, 200 mg BID, did not differ from placebo. In general, results from both the ADHD-RS hyperactivity and inattentiveness subscales, which were secondary efficacy variables, paralleled the results of the total score. CX717 was considered safe and well tolerated.

Based on these clinical results, ampakines such as CX717 might represent a breakthrough opportunity to develop a non-stimulating therapeutic for ADHD with the rapidity of onset normally seen with stimulants. Subject to raising sufficient financing (of which no assurance can be provided), we are planning to continue this program with a Phase 2B clinical trial in patients with adult ADHD.

Ampakines also may have potential utility in the treatment and management of SCI to enhance motor functions and improve the quality of life for SCI patients. An estimated 17,000 new cases of SCI occur each year in the United States, most a result of automobile accidents. Currently, there are roughly 282,000 people living with spinal cord injuries, which often produce impaired motor function.

SCI can profoundly impair neural plasticity leading to significant morbidity and mortality in human accident victims. Plasticity is a fundamental property of the nervous system that enables continuous alteration of neural pathways and synapses in response to experience or injury. One frequently studied model of plasticity is long-term facilitation of motor nerve output (“LTF”). A large body of literature exists regarding the ability of ampakines to stimulate neural plasticity, possibly due to an enhanced synthesis and secretion of various growth factors.

Recently, studies of acute intermittent hypoxia (“AIH”) in patients with SCI demonstrate that neural plasticity can be induced to improve motor function. This LTF is based on physiological mechanisms associated with the ability of spinal circuitry to learn how to adjust spinal and brainstem synaptic strength following repeated hypoxic bouts. Because AIH induces spinal plasticity, the potential exists to harness repetitive AIH as a means of inducing functional recovery of motor function following SCI.

RespireRx has been working with Dr. David Fuller, at the University of Florida with funding from the National Institutes of Health, to evaluate the use of ampakines for the treatment of compromised motor function in SCI. Using mice that have received spinal hemisections, CX717 was observed to increase motor nerve activity bilaterally. The effect on the hemisected side was greater than that measured on the intact side, with the recovery approximating that seen on the intact side prior to administration of ampakine. In addition, CX717 was observed to produce a dramatic and long-lasting effect on LTF produced by AIH. The doses of ampakines active in SCI were comparable to those demonstrating antagonism of OIRD, indicating target engagement of the AMPA receptors.

These animal models of motor nerve function following SCI support proof of concept for a new treatment paradigm using ampakines to improve motor functions in patients with SCI. With additional funding recently granted by NIH to Dr. Fuller, RespireRx is continuing its collaborative preclinical research with Dr. Fuller while it is planning a clinical trial program focused on developing ampakines for the restoration of certain motor functions in patients with SCI. The Company is working with our Clinical Advisory Panel and with researchers at highly regarded clinical sites to finalize a Phase 2 clinical trial protocol. Subject to raising sufficient financing (of which no assurance can be provided), we believe that a clinical study could be initiated as early as 2019.

According to the Autism Society, more than 3.5 million Americans live with an Autism Spectrum Disorder (“ASD”), a complex neurodevelopmental disorder. Fragile X Syndrome (“FXS”) is the most common identifiable single-gene cause of autism, affecting approximately 1.4 in every 10,000 males and 0.9 in every 10,000 females, according to the CDC. Individuals with FXS and ASD exhibit a range of abnormal behaviors comprising hyperactivity and attention problems, executive function deficits, hyper-reactivity to stimuli, anxiety and mood instability. Also, according the Autism Society, the prevalence rate of ASD has risen from 1 in 150 children in 2000 to 1 in 68 children in 2010, with current estimates indicating a significant rise in ASD diagnosis to 1 in 59 births, placing a significant emotional and economic burden on families and educational systems. The Autism Society estimates the economic cost to U.S. citizens of autism services to be between $236 and $262 billion annually.

Since “autistic disturbances” were first identified in children in 1943, extensive research efforts have attempted to identify the genetic, molecular, environmental, and clinical causes of ASD, but until recently the underlying etiology of the disorder remained elusive. Today, there are no medications that can treat ASD or its core symptoms, and only two anti-psychotic drugs, aripiprazole and risperidone, are approved by the United States Food and Drug Administration (“FDA”) for the treatment of irritability associated with ASD.

Thanks to wide ranging translational research efforts, FXS and ASD are currently recognized as disorders of the synapse with alterations in different forms of synaptic communication and neuronal network connectivity. Focusing on the proteins and subunits of the AMPA receptor complex, autism researchers at the University of San Diego (“UCSD”) have proposed that AMPA receptor malfunction and disrupted glutamate signal transmission may play an etiologic role in the behavioral, emotional and neurocognitive phenotypes that remain the standard for ASD diagnosis. For example, Stargazin, also known as CACNG2 (Ca^{2+} channel γ2 subunit), is one of four closely related proteins recently categorized as transmembrane AMPA receptor regulating proteins (“TARPs”).

Researchers at the UCSD have been studying genetic mutations in the AMPA receptor complex that lead to cognitive and functional deficiencies along the autism spectrum. They work with patients and their families to conduct detailed genetic analyses in order to better understand the underlying mechanisms of autism. In one case, they have been working with a teenage patient who has an autism diagnosis, with a phenotype that is characterized by subtle Tourette-like behaviors, extreme aggression, and verbal and physical outbursts with disordered thought. Despite the behaviors, his language is normal. Using next generation sequencing and genome editing technologies, the researchers identified a specific mutation in stargazin, a transmembrane AMPA receptor regulatory protein that alters the configuration and kinetics of the AMPA receptor. When the aberrant sequence was introduced into C57bL6 mice using CRISPR (Clustered Regulatory Interspaced Short Palindromic Repeats), the heterozygous allele had a dominant negative effect on the trafficking of post-synaptic AMPA receptors and produced behaviors consistent with a glutamatergic deficit and similar to what has been observed in the teenage patient.

With funding from the National Institutes of Health to UCSD, RespireRx is working with UCSD to explore the use of ampakines for the amelioration of the cognitive and other deficits associated with AMPA receptor gene mutations. Because CX1739 has an open investigational new drug (“IND”) application, subject to securing sufficient outside funding (of which no assurance can be provided), we are considering a Phase 2A clinical trial sometime in 2019.

Cannabinoids

OSA is a sleep-related breathing disorder that afflicts an estimated 29 million people in the United States according to the American Academy of Sleep Medicine (“AASM”), and an additional 26 million in Germany and 8 million in the United Kingdom, as presented at the European Respiratory Society’s (“ERS”) annual Congress in Paris, France in September 2018. OSA involves a decrease or complete halt in airflow despite an ongoing effort to breathe during sleep. When the muscles relax during sleep, soft tissue in the back of the throat collapses and obstructs the upper airway. OSA remains significantly under-recognized, as only 20% of cases in the United States according to the AASM and 20% of cases globally have been properly diagnosed. About 24 percent of adult men and 9 percent of adult women have the breathing symptoms of OSA with or without daytime sleepiness. OSA significantly impacts the lives of sufferers who do not get enough sleep; their quality of sleep is deteriorated such that daily function is compromised and limited. OSA is associated with decreased quality of life, significant functional impairment, and increased risk of road traffic accidents, especially in professions like transportation and shipping.

Research has established links between OSA and several important co-morbidities, including hypertension, type II diabetes, obesity, stroke, congestive heart failure, coronary artery disease, cardiac arrhythmias, and even early mortality. The consequences of undiagnosed and untreated OSA are medically serious and economically costly. According to the AASM, the estimated economic burden of OSA in the United States is approximately $162 billion annually. We believe that a new drug therapy that is effective in reducing the medical and economic burden of OSA would have significant advantages for optimal pricing in this costly disease indication.

Continuous Positive Airway Pressure ("CPAP") is the most common treatment for OSA. CPAP devices work by blowing pressurized air into the nose (or mouth and nose), which keeps the pharyngeal airway open. CPAP is not curative, and patients must use the mask whenever they sleep. Reduction of the apnea/hypopnea index ("AHI") is the standard objective measure of therapeutic response in OSA. Apnea is the cessation of breathing for 10 seconds or more and hyponea is a reduction in breathing. AHI is the sum of apnea and hypopnea events per hour. In the sleep laboratory, CPAP is highly effective at reducing the AHI. However, the device is cumbersome and difficult for many patients to tolerate. Most studies describe that 25-50% of patients refuse to initiate or completely discontinue CPAP use within the first several months and that most patients who continue to use the device do so only intermittently.

Oral devices may be an option for patients who cannot tolerate CPAP. Several dental devices are available including the Mandibular Advancement Device ("MAD") and the Tongue Retaining Device ("TRD"). The MAD is the most widely used dental device for sleep apnea and is similar in appearance to a sports mouth guard. It forces the lower jaw forward and down slightly which keeps the airway more open. The TRD is a splint that holds the tongue in place to keep the airway as open as possible. Like CPAP, oral devices are not curative for patients with OSA. The cost of these devices tends to be high and side effects associated with them include night time pain, dry lips, tooth discomfort, and excessive salivation.

Patients with clinically significant OSA who cannot be treated adequately with CPAP or oral devices can elect to undergo surgery. The most common surgery is uvulopalatopharyngoplasty which involves the removal of excess tissue in the throat to make the airway wider. Other possible surgeries include tracheostomies, rebuilding of the lower jaw, and nose surgery. Patients who undergo surgery for the treatment of OSA risk complications, including infection, changes in voice frequency, and impaired sense of smell. Surgery is often unsuccessful and, at present, no method exists to reliably predict therapeutic outcome from these forms of OSA surgery.

Recently, another surgical option has become available based on upper airway stimulation. It is a combination of an implantable nerve stimulator and an external remote controlled by the patient. The hypoglossal nerve is a motor nerve that controls the tongue. The implanted device stimulates the nerve with every attempted breath, regardless of whether such stimulation is needed for that breath, to increase muscle tone to prevent the tongue and other soft tissues from collapsing. The surgically implanted device is turned on at night and off in the morning by the patient with the remote.

The poor tolerance and long-term adherence to CPAP, as well as the limitations of mechanical devices and surgery, make discovery of therapeutic alternatives clinically relevant and important. RespireRx's translational research results demonstrate that dronabinol, a synthetic cannabinoid, has the potential to become the first drug treatment for this large and underserved market.

In order to expand RespireRx's respiratory disorders program and develop certain compounds referred to as cannabinoids for the treatment of OSA, RespireRx acquired 100% of the issued and outstanding equity securities of Pier Pharmaceuticals, Inc. ("Pier") effective August 10, 2012 pursuant to an Agreement and Plan of Merger. Pier had been 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 Chicago (the "UIC") 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 cannabinoids, of which dronabinol is a specific example, for the treatment of sleep-related breathing disorders (including sleep apnea). Pier's business plan was to determine whether dronabinol would significantly improve subjective and objective clinical measures in patients with OSA.

The Old License Agreement was terminated effective March 21, 2013 and the Company entered into a new license agreement (the "2014 License Agreement") with the UIC on June 27, 2014, the material terms of which were substantially similar to the Old License Agreement. The 2014 License Agreement grants the Company, among other provisions, exclusive rights: (i) to practice certain patents in the United States, Germany and the United Kingdom, as defined in the 2014 License Agreement, that are held by the UIC; (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 UIC a license fee, royalties, patent costs and certain milestone payments.

Dronabinol is a synthetic derivative of Δ9-THC, one of the pharmacologically active substances naturally occurring in the cannabis plant. Dronabinol is a Schedule III, controlled generic drug that has been approved by the FDA for the treatment of AIDS-related anorexia and chemotherapy-induced nausea and vomiting. Dronabinol is available in the United States as the branded prescription drug product Marinol® capsules. Marinol®, together with numerous generic formulations, is available in 2.5, 5, and 10 mg capsules, with a maximum labelled dosage of 20 mg/day for the AIDS indication, or 15 mg/m ^{2} per dose for chemotherapy-induced nausea and vomiting.

The Company conducted a 21-day, randomized, double-blind, placebo-controlled, dose escalation Phase 2A clinical study in 22 patients with OSA, in which dronabinol produced a statistically significant reduction in AHI, the primary therapeutic end-point, and was observed to be safe and well tolerated, with the frequency of side effects no different from placebo (Prasad *et al, Frontiers in Psychiatry* , 2013).

With approximately $5 million in funding from the National Heart, Lung and Blood Institute of National Institutes of Health ("NIH"), Dr. David Carley of UIC, along with his colleagues at UIC and Northwestern University, recently completed a Phase 2B multi-center, double-blind, placebo-controlled clinical trial of dronabinol in patients with OSA. Entitled Pharmacotherapy of Apnea with Cannabimimetic Enhancement ("PACE"), this study replicated the earlier Phase 2A study. The authors reported (Carley *et al* , *Sleep* , 2018) that, in a dose dependent fashion, treatment with 2.5mg and 10mg of dronabinol once a day at night, significantly reduced, compared to placebo, the AHI during sleep in 56 evaluable patients with moderate to severe OSA who completed the study. Additionally, treatment with 10mg of dronabinol significantly improved daytime sleepiness as measured by the Epworth Sleepiness Scale and achieved the greatest overall patient satisfaction. As in the previous study, dronabinol was observed to be safe and well tolerated, with the frequency of side effects no different from placebo. The Company did not manage or fund this clinical trial which was funded by the National Heart, Lung and Blood Institute of NIH.

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 allow us or a development partner to submit a 505(b)(2) New Drug Application ("NDA") to the FDA for approval of a new dronabinol label, as opposed to the submission and approval of a full 505(b)(1) NDA. The 505(b)(2) NDA was created by the Hatch-Waxman Amendments to the Federal Food, Drug and Cosmetic Act, in part, to help avoid unnecessary duplication of studies already performed on a previously approved drug; the section gives the FDA express permission to rely on data not developed by the NDA applicant. A 505(b)(2) NDA contains full safety and effectiveness reports but allows at least some of the information required for NDA approval, such as safety and efficacy information on the active ingredient, to come from studies not conducted by or for the applicant. This can result in a less expensive and faster route to approval, compared with a traditional development path, such as 505(b)(1), while creating new, differentiated products. This regulatory path offers market protections under Hatch-Waxman provisions for market exclusivity at the FDA. Other regulatory routes are available to pursue proprietary formulations of dronabinol that will provide further market protections. In Europe, a regulatory approval route similar to the 505(b)(2) pathway is the hybrid procedure based on Article 10 of Directive 2001/83/EC.

In conjunction with its management and consultants, RespireRx has developed a regulatory strategy in which we intend to file a new NDA under Section 505(b)(2) claiming the efficacy of dronabinol in the treatment of OSA and, in the process, create a new branded product. We have engaged Camargo Pharmaceutical Services, LLC to act as regulatory consultants and assist with FDA filings and regulatory strategy.

Unlike a standard 505(b)(1) NDA, the 505(b)(2) Abbreviated New Drug Application ("ANDA") process begins with a pre-IND meeting with the FDA, then moves to formulation development (and nonclinical studies, if necessary) and then to the IND (investigational new drug) filing. Since we intend to utilize an already approved or equivalent dronabinol product from manufacturers that have approved Drug Master Files, we believe that the pre-IND meeting will forego discussions of CMC (chemistry, manufacturing and controls), formulation and safety, as well as Phase 1 and 2 studies. Instead, we believe that the focus will be on the Phase 3 clinical development program. When a Phase 3 study is required for a 505(b)(2), usually only one study with fewer patients is necessary versus the two, large scale, confirmatory studies generally required for 505(b)(1). While no assurance can be provided, with an extensive safety database tracking chronic, long-term use of Marinol® and generics, we believe that FDA should not have major safety concerns with dronabinol in the treatment of OSA.

If the Company is able to secure sufficient financing, of which there can be no guarantee, we anticipate requesting a pre-IND meeting with the FDA possibly during the second quarter of 2019, which would functionally serve as the equivalent of an end-of-Phase 2 meeting. The FDA responses to this meeting will be incorporated into an IND, which we believe we could be in a position to submit within 60 days of receiving their communication.

RespireRx has worked with the PACE investigators and staff, as well as with our Clinical Advisory Panel to design a Phase 3 protocol that, based on the experience and results from the Phase 2A and Phase 2B trials, we believe will provide sufficient data for FDA approval of a RespireRx dronabinol branded capsule for OSA. Subject to raising sufficient financing (of which no assurance can be provided). RespireRx intends to submit the Phase 3 protocol to the FDA. The current version of the protocol is designed as a 90-day randomized, blinded, placebo controlled study of dronabinol in the treatment of OSA. Depending on feedback from the FDA, RespireRx estimates that the Phase 3 trial would require between 120 and 300 patients at 15 to 20 sites, and take 18 to 24 months to complete, at a cost of between $10 million and $14 million.

Subject to raising sufficient financing (of which no assurance can be provided), RespireRx intends to hire Clinilabs Drug Development Corporation, a full-service CRO, to consult and potentially provide clinical site management, monitoring, data management, and centralized sleep monitoring services for the Phase 3 OSA trial. Dr. Gary Zammitt, CEO of Clinilabs, serves on the RespireRx Clinical Advisory Panel, and his management team has provided guidance on study design and CNS drug development that will be relevant for the Phase 3 program. For example, Clinilabs offers specialized clinical trial services for CNS drug development through an alliance with Neuroclinics, including clinical trials examining the effects of drugs on driving, cognitive effects of food and (medicinal) drugs, and sleep and sleep disordered breathing.

On September 4, 2018, RespireRx entered into a dronabinol Development and Supply Agreement with Noramco Inc., one of the world's major dronabinol manufacturers. Under the terms of the Agreement, Noramco agreed to (i) provide all of the active pharmaceutical ingredient ("API") estimated to be needed for the clinical development process for both the first- and second-generation products (each a "Product" and collectively, the "Products"), three validation batches for NDA filing(s) and adequate supply for the initial inventory stocking for the wholesale and retail channels, subject to certain limitations, (ii) maintain or file valid drug master files ("DMFs") with the FDA or any other regulatory authority and provide the Company with access or a right of reference letter entitling the Company to make continuing reference to the DMFs during the term of the agreement in connection with any regulatory filings made with the FDA by the Company, (iii) participate on a development committee, and (iv) make available its regulatory consultants, collaborate with any regulatory consulting firms engaged by the Company and participate in all FDA or Drug Enforcement Agency ("DEA") meetings as appropriate and as related to the API.

In consideration for these supplies and services, the Company has agreed (i) to purchase exclusively from Noramco, during the commercialization phase, all API for its Products (as defined in the Development and Supply Agreement) at a pre-determined price subject to certain producer price adjustments and (ii) Noramco's participation in the economic success of the commercialized Product or Products up to the earlier of the achievement of a maximum dollar amount or the expiration of a period of time.

We plan to establish strategic relationships with appropriate companies to complete formulation and packaging. RespireRx has identified several candidates to perform the encapsulation. Some of these already supply finished product to generic pharmaceutical companies marketing dronabinol for its current non-OSA indications. In addition, as described below, RespireRx has been in discussions with several companies that have considerable expertise in developing novel formulations for dronabinol and have expressed interest in helping us develop a proprietary controlled release formulation. No assurance can be provided that encapsulation or formulation agreements will be consummated on terms acceptable to us; the failure to consummate these agreements would materially adversely affect the Company.

After considerable research and discussions with consultants, we believe the most direct route to commercialization is to proceed directly to a Phase 3 pivotal clinical trial using the currently available dronabinol formulation (2.5, 5 and 10 mg gel caps) and to commercialize a RespireRx branded dronabinol capsule ("RBDC") with an NDA. To that end, RespireRx plans to complete the Phase 3 trial and submit a 505(b)(2) application to FDA for approval of a new, branded, once per day dronabinol gel capsule for the treatment of OSA estimated to occur in 2020. Under the provisions of the Hatch-Waxman Act, the RBDC would have 3-year market exclusivity, as well as further protection from generic substitution through 2025 due to our patents and an anticipated listing in the ***Approved Drug Products with Therapeutic Equivalence Evaluations*** publication (the "Orange Book"), which identifies drug products approved on the basis of safety and effectiveness by the FDA and related patent and exclusivity information.

In addition, management believes there are numerous opportunities for reformulation of dronabinol to produce a proprietary, branded product for the treatment of OSA. Therefore, simultaneous with the development of the RBDC, RespireRx plans to develop a proprietary dronabinol formulation to optimize the dose and duration of action for treating OSA. An analysis of the time-related efficacy results provides potential guidance on development. We have identified several formulation companies with existing dronabinol formulations, expertise, and licensure to develop a proprietary formulation of dronabinol for RespireRx based on RespireRx's pending patents for low-dose and extended release dronabinol, which we expect would enable brand extensions and market protections through 2036.

Since RBDC is expected, if approved, to be approved under a 505(b)(2) NDA, it would be considered a new, proprietary, branded dronabinol product, with a specific label for OSA. It would be non-identical to any other dronabinol product and there would be no generic equivalents or AB substitutions. There are many examples of branded products that might ordinarily have applied for an ANDA as a branded generic, but which have successfully utilized this 505(b)(2) NDA approach to grant them new product status and protect them from generic substitution.

Because the 505(b)(2) NDA requires clinical data for approval of a new indication, we anticipate that our RBDC would be eligible for market protection under the Hatch-Waxman Amendment clause for "other significant changes" and we expect would therefore be eligible for 3-years of market exclusivity. At the end of these 3 years, if a generic company wished to challenge our issued patents, they would have to file an ANDA with bioequivalence data to our RBDC and, if our patents were listed in the Orange Book, they would have to simultaneously file a Paragraph 4 certification stating that they are challenging our patent. At that point, we would receive a 30-months stay of the patent challenge.

We believe the 5.5 years of market exclusivity expected to result from the Hatch-Waxman Act and the Orange Book listing will provide adequate time for the development and approval of a novel, proprietary formulation of dronabinol, optimized for all-night treatment of OSA, with patent protections through 2036. If the new formulation is approved, we plan to rescind the 505(b)(2) NDA for RBDC and replace the branded product with the new and improved formulation on the market, with the intention of preventing ANDA competition and protecting market share.

With guidance based on the product launch experience of Dr. MacFarland, a member of our Board of Directors, and Richard Purcell, our senior vice-president of research and development, and the managed markets experience of our consultant, Commercialization Consulting, LLC, we have prepared an approach to marketing and commercialization of both the RBDC and the proprietary dronabinol formulation. Based upon an extensive analysis conducted by Commercialization Consulting, LLC, we believe that if we were to execute our strategy, we should not experience a loss of more than approximately 15% of sales due to off-label generic dronabinol sales.

On February 13, 2019, the Company entered into a non- binding memorandum of understanding ("MOU") and exclusivity agreement with Impression Healthcare Limited (ASX: IHL)("Impression") for the purpose of negotiating terms by which the parties would enter in an arrangement, such as a license, joint venture or partner agreement, so as to commercialize dronabinol for the treatment of OSA in Australia, New Zealand and Southeast Asia. Discussions are in progress.

Technology Rights

University of Illinois License Agreement

See Note 8. Commitments and Contingencies – Significant Agreements and Contracts – *University of Illinois 2014 Exclusive License Agreement* to our condensed consolidated financial statements at March 31, 2019 in Part I.

As of December 31, 2018, the Company received an extension of time to make a $100,000 payment that would have due on such date. An additional extension was granted until February 28, 2019, on which date the Company made the required payment.

University of Alberta License Agreement and Research Agreement

See Note 8. Commitments and Contingencies – Significant Agreements and Contracts – *University of Alberta License Agreement* to our condensed consolidated financial statements at March 31, 2019 in Part I.

See Note 4. Notes Payable - *Convertible Notes Payable* to our condensed consolidated financial statements at March 31, 2019 in Part I.

Going Concern

See Note 2. Business – *Going Concern* to our condensed consolidated financial statements at March 31, 2019 in Part I.

The Company's regular efforts to raise capital and to evaluate measures to permit sustainability are time-consuming and intensive. Such efforts may not prove successful and may cause distraction, disruption or other adversity that limits the Company's development program efforts.

Recent Accounting Pronouncements

See Note 2 to the Company's condensed consolidated financial statements at March 31, 2019 in Part I.

Management does not believe that any 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

See Note 2. Significant Accounting Policies – *Concentration of Risk* to the Company's condensed consolidated financial statements at March 31, 2019 in Part I.

See Note 8. Commitments and Contingencies – *University of Alberta License Agreement* to the Company's condensed consolidated financial statements at March 31, 2019 in Part I.

See Note 8. Commitments and Contingencies – *University of Illinois 2014 Exclusive License Agreement* to the Company's condensed consolidated financial statements at March 31, 2019 in Part I.

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.

C ritical accounting policies and estimates are described in the notes to the Company's condensed consolidated financial statements and include:

- Stock-based awards
- Research and Development Costs
- License Agreements
- Patent Costs

Results of Operations

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

	Three-months Ended March 31, (unaudited)	
	2019	**2018**
Operating expenses:		
General and administrative, including $121,200 and $207,594 to related parties for the three-months ended March 31, 2019 and 2018, respectively	324,513	354,843
Research and development, including $122,400 and $122,509 to related parties for the three-months ended March 31, 2019 and 2018, respectively	149,350	151,334
Total operating costs and expenses	473,863	506,177
Loss from operations	(473,863)	(506,177)
Loss on extinguishment of debt in exchange for equity	-	(66,782)
Interest expense, including $2,533 and $5,610 to related parties for the three-months ended March 31, 2019 and 2018, respectively	(81,112)	(27,273)
Foreign currency transaction gain (loss)	14,643	(146,446)
Net loss attributable to common stockholders	$ (540,332)	$ (746,678)
Net loss per common share - basic and diluted	$ (0.14)	$ (0.24)
Weighted average common shares outstanding - basic and diluted	3,872,076	3,085,263

Three-months Ended March 31, 2019 and 2017

Revenues . The Company had no revenues during the three-months ended March 31, 2019 and 2018.

General and Administrative . For the three-months ended March 31, 2019, general and administrative expenses were $324,513, a decrease of $30,330, as compared to $354,843 for the three-months ended March 31, 2018. The decrease in general and administrative expenses for the three-months ended March 31, 2019, as compared to the three-months ended March 31, 2018, is primarily due to a decrease in compensation and benefits of $103,650 with the departure of Dr. James S. Manuso as the Company's Chief Executive Officer and President, decreases in accounting fees of $18,000, a decrease in investor relations expenses of approximately $24,000 and decreases in conferences and related travel costs of approximately $9,000, partially offset by increases in fees for the independent members of the Board of Directors of $20,000, an increase of patent and related costs of approximately $11,000, increases in general corporate legal fees of approximately $86,000 and in the cost of directors and officers liability insurance of approximately $10,000, and the net effect of increases and decreases other general and administrative expenses.

There was no stock-based compensation in general and administrative expenses for the three-months ended March 31, 2019 or 2018.

Research and Development . For the three-months ended March 31, 2019, research and development expenses were $149,350, a decrease of $1,984, as compared to $151,334 for the three-months ended March 31, 2018. The decrease in research and development expenses for the three-months ended March 31, 2098, as compared to the three-months ended March 31, 2018, is primarily a result of a decrease in research and development related insurance expenses.

There was no stock-based compensation in research and development expenses for the three-months ended March 31, 2019 or 2018.

Loss on Extinguishment of Convertible Debt . There was no loss on the extinguishment of convertible debt in the three-months ended March 31, 2019 as compared to $66,782 in the three-months ended March 31, 2018,. On February 28, 2018, the Company entered into an exchange agreement with a single holder of two convertible notes. The note holder agreed to exchange an aggregate of $43,552 of principal and accrued interest for 58,071 shares of the Company's common stock. The closing price of the Company's common stock on February 28, 2018 was $1.90 per share. As a result of the exchange, $43,552 of convertible notes were cancelled and $110,334 market value of common stock was issued.

Interest Expense . During the three-months ended March 31, 2019, interest expense was $81,112 (including $2,533 to related parties), an increase of $58,839, as compared to $27,273 (including $2,788 to related parties) for the three-months ended March 31, 2018. The increase is the result of interest on the additional $100,000 of notes to officers in April 2018 (of which $50,000 was later exchanged into common stock and warrants), and interest on the additional $80,000 of convertible notes and warrants as well as interest on the judgment described in Note 8 to the condensed consolidated financial statements at March 31, 2019.

Foreign Currency Transaction (Loss) Gain . Foreign currency transaction gain was $14,643 for the three-months ended March 31, 2019, as compared to a foreign currency transaction loss of $146,446 for the three-months ended March 31, 2018. 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 Attributable to Common Stockholders . For the three-months ended March 31, 2019, the Company incurred a net loss of $540,332 as compared to a net loss of $746,678 for the three-months ended March 31, 2018.

Liquidity and Capital Resources - March 31, 2019

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 $540,332 for the three-months ended March 31, 2019 and $2,591,790 for the fiscal year ended December 31, 2018, and negative operating cash flows of $137,786 for the three-months ended March 31, 2019 and $427,368 for the fiscal year ended December 31, 2018, had a stockholders' deficiency of $6,227,775 at March 31, 2019, 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, 2018, expressed substantial doubt about the Company's ability to continue as a going concern.

At March 31, 2019, the Company had a working capital deficit of $6,227,775, as compared to a working capital deficit of $5,736,369 at December 31, 2018, reflecting an increase in the working capital deficit of $491,406 for the three-months ended March 31, 2019. The increase in the working capital deficit during the three-months ended March 31, 2019 is comprised primarily of an increase in total current liabilities of $515,401. The increase in total current liabilities of $515,401 consists of a net increase in accounts payable and accrued expenses of $138,561, an increase in accrued compensation of $195,300, an increase in convertible notes payable of 124,884, an increase in other short term notes payable (primarily insurance premium financing) of $52,839 and an increase in officer and former officer notes payable of $6,331, offset by a decrease in the note to Samyang inclusive of accrued interest of $2,814.

At March 31, 2019, the Company had cash aggregating $5,498, as compared to $266 at December 31, 2018, reflecting an increase in cash of $5,232 for the three-months ended March 31, 2019. The increase in cash during the three-months ended March 31, 2019 was primarily the result of cash provided by convertible note financings.

The Company is currently, and has for some time, been in significant financial distress. It has extremely 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 taken steps to continue to raise new debt and equity capital to fund the Company's business activities.

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. The Company is evaluating certain changes to its operations and structure to facilitate raising capital from sources that may be interested in financing only discrete aspects of the Company's development programs. Such changes could include a significant reorganization. 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, 2019, operating activities utilized cash of $137,786, as compared to utilizing cash of $140,022 for the three-months ended March 31, 2018, to support the Company's ongoing general and administrative expenses as well as its research and development activities.

Financing Activities . For the three-months ended March 31, 2019, financing activities consisted of the borrowings on convertible notes with warrants of $110,000 and the financing with a short term note of $61,746 in connection with the new directors and officers insurance policy. For the three-months ended March 31, 2018, financing activities short term note financings associated with insurance policies of $55,386.

Principal Commitments

Employment Agreements

See Note 8. Commitments and Contingencies – Significant Agreements and Contracts – *Employment Agreements* to our condensed consolidated financial statements at March 31, 2019 in Part I.

University of Alberta License Agreement

See Note 8. Commitments and Contingencies – Significant Agreements and Contracts – *University of Alberta License Agreement* to our condensed consolidated financial statements at March 31, 2019 in Part I.

University of Illinois 2014 Exclusive License Agreement

See Note 8. Commitments and Contingencies – Significant Agreements and Contracts – *University of Illinois 2014 Exclusive License Agreement* to our condensed consolidated financial statements at March 31, 2019 in Part I.

The following table sets forth the Company's principal cash obligations and commitments for the next five fiscal years as of March 31, 2019, aggregating $805,600. License agreement amounts included in the 2019 column represents amounts contractually due from April 1, 2019 through December 31, 2019 (nine months) and in each of the subsequent years, represents the full year. Employment agreement amounts included in the 2019 column represent amounts contractually due at from April 1, 2019 through September 30, 2019 (six months) when such contracts expire unless extended pursuant to the terms of the contracts.

		Payments Due By Year				
	Total	2019	2020	2021	2022	2023
License agreements	$ 475,000	$ 75,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Employment agreements (1)	330,600	330,600	-	-	-	-
Total	$ 805,600	$ 405,600	$ 100,000	$ 100,000	$ 100,000	$ 100,000

(1) The payment of such amounts has been deferred indefinitely, as described above at "Employment Agreements." The 2019 amounts include six-months of employment agreement obligations for Dr. Lippa and Mr. Margolis as their employment contracts renewed on September 30, 2018 and the 2019 obligations include the six months of obligations through September 30, 2019.

Off-Balance Sheet Arrangements

At March 31, 2019, 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 principal executive officer and principal financial officer to allow timely decisions regarding required disclosure.

Current management, is 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 principal executive officer and principal financial officer to allow timely decisions regarding required disclosure. The Company has not yet completed the process to establish adequate internal controls over financial reporting. The Company remains under-staffed in such respects.

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) 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

We are periodically subject to various pending and threatened legal actions and claims. See Note 8. Commitments and Contingencies – *Pending or Threatened Legal Actions and Claims* to our condensed consolidated financial statements at March 31, 2019 for details regarding these matters.

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, 2018, as filed with the SEC on April 16, 2019 (the "2018 Form 10-K"). The Risk Factors set forth in the 2018 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 2018 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 January 2, 2019, February 27, 2019, March 6, 2019 and March 14, 2019, convertible notes ("2019 Convertible Notes") bearing interest at 10% per year. The January 2, 2019 Convertible Note matured on February 28, 2019 with a face amount of $10,000. The February 27, 2019, March 6, 2019 and March 14, 2019, 2019 Convertible Notes matured on April 30, 2019 with an aggregate face amount of $100,000. Investors also received an aggregate of 110,000 common stock purchase warrants. The warrants were valued using the Black Scholes option pricing model calculated on the date of each grant and had an aggregate value of $78,780. Total value received by the investors was $188,780, the sum of the face value of the convertible note and the value of the warrant. Therefore, the Company recorded an initial original issue discount of $45,812 and an initial value of the convertible notes of $64,188 using the relative fair value method. $24,883 of the original issue discount was amortized to interest expense through March 31, 2019. An additional $1,061 of interest expense was recorded based upon the 10% annual rate. The 2019 Convertible Note that matured on February 28, 2019, was not paid, remains outstanding and continues to accrue interest. The 2019 Convertible Notes that matured on April 30, 2019 were not paid and remain outstanding and continue to accrue interest. Although the 2019 Convertible Notes are in default, the Company has not received any notices of default from any of the note holders. The 2019 Convertible Notes have no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events other than the right, but not the obligation for each investor to convert or exchange his or her 2019 Convertible Note, but not the warrant, into the next exempt private securities offering, which offering has not occurred as of March 31, 2019 or as of the date of the issuance of these financial statements. Therefore, the number of shares of common stock (or preferred stock) into which the 2019 Convertible Notes may convert is not determinable and the Company has not accounted for any beneficial conversion feature. The warrants to purchase 110,000 shares of common stock issued in connection with the sale of the 2019 Convertible Notes are exercisable at a fixed price of $1.50 per share of common stock, provide 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.

During December 2018, convertible notes ("2018 Convertible Notes") bearing interest at 10% per year and maturing on February 28, 2019 and warrants were sold to investors with an aggregate face amount of $80,000. Investors also received 80,000 common stock purchase warrants. The warrants were valued using the Black Scholes option pricing model calculated on the date of each grant and had an aggregate value of $68,025. Total value received by the investors was $148,025, the sum of the face value of the convertible note and the value of the warrant. Therefore, the Company recorded an initial original issue discount of $36,347 and an initial value of the convertible notes of $43,653 using the relative fair value method. $27,969 of the original issue discount was amortized to interest expense for the three-months ended March 31, 2019 and $8,379 was amortized from inception through December 31, 2018. An additional $2,000 of interest expense was recorded based upon the 10% annual rate for the three-months ended March 31, 2019 and $401 of interest expense was recorded from inception through December 31, 2018. The 2018 Convertible Notes matured on February 28, 2019, were not paid, remain outstanding and continue to accrue interest. Although the 2018 Convertible Notes are in default, the Company has not received any notices of default from any of the note holders. The 2018 Convertible Notes have no reset rights or other protections based on subsequent equity transactions, equity-linked transactions or other events other than the right, but not the obligation for each investor to convert or exchange his or her 2018 Convertible Note, but not the warrant, into the next exempt private securities offering, which offering has not occurred as of March 31, 2019 or as of the date of the issuance of these financial statements. Therefore, the number of shares of common stock (or preferred stock) into which the 2018 Convertible Notes may convert is not determinable and the Company has not accounted for any beneficial conversion feature. The warrants to purchase 80,000 shares of common stock issued in connection with the sale of the 2018 Convertible Notes are exercisable at a fixed price of $1.50 per share of common stock, provide 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.

The convertible notes and shares of common stock into which they may convert and warrants and the shares of common stock issuable if they exercise sold in the private placements discussed above were offered and sold without registration under the Securities Act of 1933, as amended (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.

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, 2019 and 2018.

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 subsequent to December 31, 2015. 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 has in the past made several efforts towards a comprehensive resolution of the aforementioned matters involving SY Corporation. During the three-months ended March 31, 2019, there were no further communications between the Company and SY Corporation.

Note payable to Samyang consists of the following at March 31, 2019 and December 31, 2018:

	March 31, 2019	December 31, 2018
Principal amount of note payable	$ 399,774	$ 399,774
Accrued interest payable	327,136	315,307
Foreign currency transaction adjustment	14,717	29,360)
	$ 741,627	$ 744,441

Interest expense with respect to this promissory note was $11,829 and $11,829 for the three-months ended March 31, 2019 and 2018, respectively.

Default on Convertible Notes Payable

At March 31, 2019, the amount owed on the one remaining Original Convertible Note in default was $40,518, including principal and interest.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

INDEX TO EXHIBITS

The following documents are filed as part of this report:

Exhibit Number	Description of Document
10.1	Form of Convertible Promissory Note (including the Form of Warrant) (incorporated by reference to the Company's Current Report on Form 8-K (file no. 1-16467) filed March 5, 2019).
10.2	Securities Purchase Agreement, dated April 24, 2019, between RespireRx Pharmaceuticals Inc. and Power Up Lending Group Ltd. (incorporated by reference to the Company's Current Report on Form 8-K (file no. 1-16467) filed April 30, 2019).
10.3	Convertible Promissory Note, dated April 24, 2019 (incorporated by reference to the Company's Current Report on Form 8-K (file no. 1-16467) filed April 30, 2019).
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."

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 20, 2019

By: */s/ Arnold S. Lippa*
Arnold S. Lippa
Interim President and Interim Chief Executive Officer

Date: May 20, 2019

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

EXHIBIT 31.1

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

I, Arnold S. Lippa, 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 20, 2019

By: */s/ ARNOLD S. LIPPA*
Arnold S. Lippa
Interim Chief Executive Officer

EXHIBIT 31.2

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

I, Jeff E. 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 20, 2019

By: */s/ JEFF E. MARGOLIS*
Jeff E. Margolis
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, 2019, 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 20, 2019

By: */s/ ARNOLD S. LIPPA*
Arnold S. Lippa
Interim Chief Executive Officer

EXHIBIT 32.2

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

I, Jeff E. 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, 2019, 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 20, 2019

By: */s/ JEFF E. MARGOLIS*
Jeff E. Margolis
Chief Financial Officer