

PROSPECTUS

115,000,000 Shares of Common Stock



RespireRx Pharmaceuticals Inc.

This prospectus relates to the resale of up to 115,000,000 shares of our common stock, \$0.001 par value per share ("Common Stock"), issuable to White Lion Capital, LLC (the "Selling Stockholder"), pursuant to a "put right" under an equity purchase agreement, dated July 28, 2020, by and between us and the Selling Stockholder (as amended, the "Purchase Agreement"). The Purchase Agreement permits us to "put" up to \$2,000,000 in shares of Common Stock to the Selling Stockholder under certain circumstances over a period of time expiring on June 30, 2021, unless earlier terminated by the Selling Stockholder's purchase of all shares of Common Stock issuable under the Purchase Agreement or the termination of the Purchase Agreement. The purchase price per share to be paid by the Selling Stockholder is equal to 85% of the lowest daily volume weighted average price of Common Stock during a pricing period of five consecutive trading days prior to the date that the Selling Stockholder purchases and pays for such shares.

The Selling Stockholder may sell all or a portion of the shares being offered pursuant to this prospectus at fixed prices, at prevailing market prices at the time of sale, at varying prices or at negotiated prices.

The Selling Stockholder is an underwriter within the meaning of the Securities Act of 1933, as amended (the "Securities Act"). Additionally, any broker-dealers or agents that are involved in selling the shares may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by the broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

Our Common Stock is quoted by the OTCQB Venture Market operated by the OTC Markets Group, Inc. ("OTCQB") under the symbol "RSPI." On October 23, 2020, the closing price of our Common Stock was \$0.0047 per share.

We will not receive any proceeds from the sale of our Common Stock by the Selling Stockholder. However, we will receive proceeds from the sale of shares of our Common Stock pursuant to our exercise of the put right offered by the Selling Stockholder. We will pay for expenses of this offering, except that the Selling Stockholder will pay any broker discounts or commissions or equivalent expenses or expenses of its legal counsel applicable to the sale of its shares.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" beginning on page 7 of this prospectus, and under similar headings in any amendments or supplements to this prospectus.

Neither the Securities and Exchange Commission (the "SEC") nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is October 28, 2020

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You should rely only on the information contained in this prospectus. We have not, and the Selling Stockholder has not, authorized anyone to provide you with any information other than that contained in this prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus may only be used where it is legal to offer and sell our securities. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date. We are not, and the Selling Stockholder is not, making an offer of these securities in any jurisdiction where the offer is not permitted.

For investors outside the United States: We have not and the Selling Stockholder has not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States must inform themselves about, and observe any restrictions relating to, the offering of securities and the distribution of this prospectus outside the United States.

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We believe that the data obtained from these industry publications and third-party research, surveys and studies are reliable. We are ultimately responsible for all disclosure included in this prospectus.

You should rely only on the information contained in this prospectus, as supplemented and amended. We have not authorized anyone to provide you with information that is different. This prospectus may only be used where it is legal to sell these securities. The information in this prospectus may only be accurate on the date of this prospectus.

We urge you to read carefully this prospectus, as supplemented and amended, before deciding whether to invest in any of the securities being offered.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our securities, you should carefully read this entire prospectus, including our financial statements and the related notes and the information set forth under the headings “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in each case included elsewhere in this prospectus. Unless otherwise stated or the context requires otherwise, references in this prospectus to “RespireRx”, the “Company”, “we”, “us”, “our” and similar references refer to RespireRx Pharmaceuticals, Inc. and its wholly owned subsidiary, Pier Pharmaceuticals, Inc. (“Pier”).

Business Overview

The mission of the Company is to develop innovative and revolutionary treatments to combat disorders that are caused by disruption of neuronal signaling and that affect millions of people but for which there are few or poor treatment options.

To this end, we are developing a pipeline of new drug product candidates based on our broad patent portfolios for two drug platforms: (i) our cannabinoid platform (which we refer to as ResolutionRx), including dronabinol (a synthetic form of Δ^9 -tetrahydrocannabinol (“ Δ^9 -THC”)), which acts upon the nervous system’s endogenous cannabinoid receptors and (ii) our neuromodulators platform (which we refer to as EndeavourRx), which includes two programs: (a) AMPAkinines, proprietary compounds that are positive allosteric modulators (“PAMs”) of AMPA-type glutamate receptors to promote neuronal function and (b) GABAkinines, PAMs of the Type A gamma-amino-butyric acid (“GABA_A”) receptors, which program was recently established pursuant to our entry with the University of Wisconsin-Milwaukee Research Foundation, Inc., an affiliate of the University of Wisconsin-Milwaukee (“UWMRF”), into a patent license agreement (the “UWMRF Patent License Agreement”).

In our cannabinoid platform, we are developing treatment options to address obstructive sleep apnea (“OSA”). In our AMPAkinine program, we are developing patient treatment options for attention deficit hyperactivity disorder (“ADHD”), spinal cord injury (“SCI”), Autism Spectrum Disorder (“ASD”), and certain neurological orphan diseases such as Fragile X Syndrome (“FXS”). With the addition of the GABAkinine program, we are developing therapeutic options for treatment-resistant epilepsy and other convulsant disorders, and potentially migraine, inflammatory, neuropathic pain, and other central nervous system (“CNS”) driven disorders. At this time, due to insufficient funding, we do not have any active clinical trials and our development operations are limited to planning activities.

Recent Developments

We are assessing the impact of the COVID-19 pandemic on our discovery, research and clinical programs, including impacts on their expected timelines and costs. Because we are not actively pursuing any clinical trials at this time due to insufficient funding, the pandemic has not impacted our operations; however, if we are able to secure financing from our exercise of our put right to the Selling Stockholder or otherwise and can proceed with activity under our programs, these impacts could ultimately be severe. On March 18, 2020 and July 2, 2020, the U.S. Food and Drug Administration (“FDA”) issued updated industry guidance for conducting clinical trials, in which the FDA emphasized that safety of trial participants is critically important. This guidance may lead to the implementation of additional protocols such as COVID-19 screening procedures, resulting in potential delays and additional costs. The risks, strategic and operational challenges and costs of conducting such trials as a result of the global pandemic have exacerbated an already challenging clinical trial process. See “Risk Factors” for more information regarding the potential impact of the COVID-19 pandemic on our business and operations. We will continue to evaluate the impact of the COVID-19 pandemic on our business.

The Company is authorized to issue 1,000,000,000 shares of Common Stock, and as of September 30, 2020, there were 577,842,003 shares of Common Stock issued and outstanding. Additionally, the Company is obligated to reserve from its authorized shares of Common Stock: (i) a multiple of the number of shares of Common Stock into which certain of its promissory notes, preferred stock, and warrants are convertible or exercisable, as applicable; and (ii) the number of shares of Common Stock issuable under its equity plans. Given the number of shares of Common Stock that has been issued, and without obtaining waivers releasing the Company from certain of these share reserve obligations, there may be an insufficient number of shares of Common Stock available for issuance pursuant to the full purchase commitment under the Purchase Agreement or for issuance pursuant to future equity financings.

Prior to this, on September 14, 2020, the board of directors of the Company (the “Board”) authorized and recommended that the holders of Series H Preferred Stock approve an increase in the number of authorized shares of Series H Preferred Stock from 1,200 (one thousand two-hundred) to 3,000 (three thousand) by amendment to the Certificate of Designation, Preferences, Rights and Limitations, Series H 2% Voting, Non-Participating, Convertible Preferred Stock (“Amendment”). On September 30, 2020, holders of all shares of Series H Preferred Stock approved such amendment by written consent. The Company filed the Amendment with the Secretary of State of Delaware on September 30, 2020.

Also, on September 14, 2020, the Board accepted the conversion of all shares of Series H Preferred Stock, upon request of the holders of the Series H Preferred Stock, as discussed in the following three paragraphs.

On September 30, 2020, each of Arnold S. Lippa, the Company's Executive Chairman and Chief Scientific Officer and a director, and Jeff Eliot Margolis, the Company's Senior Vice President, Chief Financial Officer, Treasurer and Secretary and a director, offered to forgive \$100,000 and \$150,000 respectively, of accrued compensation and related benefits accrued on or prior to September 30, 2020 in exchange for 100 and 150 shares of Series H Preferred Stock, respectively. On September 30, 2020, Timothy Jones, the Company's President and Chief Executive Officer and a director, offered to forgive \$28,218 of accrued Board advisory fees and non-employee Board fees in exchange for 28.218 shares of Series H Preferred Stock. The Company accepted all such offers on September 30, 2020, and entered into exchange agreements with each of these individuals related thereto. Arnold S. Lippa and Jeff Eliot Margolis transferred their newly received Series H Preferred Stock to their respective family trusts. On September 30, 2020, the trusts converted all of their Series H Preferred Stock, inclusive of 4.8277778 shares of Series H Preferred Stock representing accrued but unpaid dividends, into 211,691,840 shares of Common Stock and warrants to purchase 211,691,840 shares of Common Stock. On September 30, 2020, Timothy Jones converted all of his Series H Preferred Stock into 4,409,063 shares of Common Stock and warrants to purchase 4,409,063 shares of Common Stock.

On September 30, 2020, the Company entered into exchange agreements with two vendors pursuant to which the Company settled certain accounts payable and accrued expense payment obligations with Series H Preferred Stock in lieu of cash. In the aggregate \$241,109 of liabilities were settled with the issuance of 241.10948 shares of Series H Preferred Stock issued directly to designees of such vendors. On September 30, 2020, the designees of such vendors converted their Series H Preferred Stock into 37,673,357 shares of Common Stock and warrants to purchase 37,673,357 shares of Common Stock.

In the aggregate, on September 30, 2020, all holders of Series H Preferred Stock, including the designees noted above, Timothy Jones and the four trusts of Arnold S. Lippa and Jeff Eliot Margolis described above, converted all of their Series H Preferred Stock into an aggregate of 253,774,260 shares of Common Stock and warrants to purchase 253,774,260 shares of Common Stock.

On September 30, 2020, the Company received affirmative written confirmations from holders (each, a "Noteholder") of several of the Company's outstanding convertible notes and related warrants of their agreement to waive, until November 25, 2020, share reserve requirements under the notes and warrants. As of September 30, 2020, taking into account the waivers and the transactions effected on that date, the Company was required to reserve 251,011,042 shares of its authorized and unissued Common Stock with respect to such notes and warrants that were not subject to such waivers and after reserving for outstanding options and other outstanding warrants, and had 422,157,977 shares of authorized but unissued shares of Common Stock, including 87,036,986 authorized, unissued and unreserved shares of Common Stock available. The waivers were necessary to permit the issuances of the Series H Preferred Stock and the Series H Preferred Stock conversions and warrant exercises discussed above.

On October 16, 2020, the Board authorized and recommended that the holders of Common Stock approve (i) a ten-to-one (10:1) reverse stock split of all of the outstanding Common Stock and (ii) an increase in the number of authorized shares of Common Stock from 1,000,000,000 (one billion) to 2,000,000,000 (two billion). On October 20, 2020, the Company filed a preliminary proxy statement on Schedule 14A for a special meeting of stockholders to be held on November 24, 2020 to approve these matters.

There can be no assurance that the Company's stockholders will approve either or both of these matters. Even if they do approve these matters, the Board may determine not to effect one or both of these proposals.

If the reverse stock split is effected, five of the Company's six outstanding convertible notes provide that the number of shares of Common Stock into which the convertible notes are convertible would be proportionately adjusted to account for the reverse stock split. The convertible note held by White Lion with a principal amount of \$40,000 is silent as to adjustment of the conversion price in the case of a reverse stock split. The conversion price is fixed at \$0.02 per share. Such note does, however, restrict conversion that would result in White Lion beneficially owning more than 9.99% of the Company's outstanding Common Stock.

If the reverse stock split is effected, all outstanding stock options and, other than as described in the following sentence, all outstanding warrants entitling their holders to purchase shares of our Common Stock will be proportionately reduced in the same ratio as the reduction in the number of shares of outstanding Common Stock, except that any fractional shares resulting from such reduction will be rounded down to the nearest whole share. One of the Company's outstanding warrants is silent as to adjustment of the exercise price in the case of a reverse stock split. The exercise price is \$0.0016. Such warrant does, however, restrict exercises that would result in the holder beneficially owning more than 4.99% of the Company's outstanding Common Stock.

On October 22, 2020, October 23, 2020 and October 26, 2020, we issued 7,407,407, 5,555,556 and 7,844,444 shares of Common Stock, respectively, to one of our convertible noteholders upon the conversion of an aggregate of \$53,000 of the principal amount of an outstanding convertible note and \$3,180 of related accrued interest. These conversions represent the satisfaction in full of all principal and interest associated with this convertible note and reduce our contractual share reserve requirements by 124,844,442 shares.

Risks Associated with Our Business

Our business is subject to many risks, as more fully described in the section titled “Risk Factors” immediately following this prospectus summary. You should read and carefully consider these risks, together with the risks set forth under the section titled “Risk Factors” and all of the other information in this prospectus, including the financial statements and the related notes included elsewhere in this prospectus, before deciding whether to invest in our securities. If any of the risks discussed in this prospectus actually occur, our business, financial condition or operating results could be materially and adversely affected. In particular, such risks include, but are not limited to, the following:

- Our business is subject to risks arising from epidemic diseases, such as the COVID-19 pandemic.
- As a result of our current negative net worth, lack of cash and other liquid resources, the magnitude of our liabilities and the difficulties we have historically experienced raising capital, we and our auditors have expressed substantial doubt regarding our ability to continue as a “going concern.”
- Our independent registered public accounting firm has identified material weaknesses in our financial reporting process.
- Raising additional capital may cause dilution to our stockholders.
- We have received temporary waivers of certain of the Common Stock reserve requirements associated with certain of our convertible notes and certain related warrants. As described above in the section titled “Recent Developments,” such waivers are necessary to ensure that we do not default on those notes or the terms of such warrants while we are seeking to increase the number of authorized shares of our Common Stock. If we breach the contractual reserve requirements we will be in default of our contractual obligations, which may have material adverse consequences and may make it more difficult to raise additional necessary capital.
- Our success, at least in part, will be dependent upon the strength of our intellectual property, including, but not limited to licensed and owned patents, patent applications, continuations-in-part, provisional patent applications, know-how, trade secrets and other forms of intellectual property. The issuance of patents with relevant claims is subject to varying degrees of uncertainty. Our ability to defend our intellectual property or challenge third party intellectual property infringement claims is expensive, time-consuming and uncertain. If our patent applications do not issue with relevant claims or if we cannot defend our patents, or, as appropriate, challenge interfering patents or actions of third parties, or otherwise maintain our intellectual property, our business and operations will be adversely affected.
- Our success may be dependent upon our ability to enter into strategic alliances with larger companies in our industry or with companies that have specific expertise. We may not be able to enter into such alliances on terms acceptable to us and our inability to do so would have a material adverse effect on our business.
- The markets for our product candidates are highly competitive and are subject to change due to scientific advancements, which could have a material adverse effect on our business, results of operations and financial condition.
- One of our product candidates is based, at least in part, on the development of one or more new formulations and the repurposing of an approved drug, the development of which is inherently risky while others of our product candidates have never been approved for marketing by any regulatory bodies and are subject to substantial research and development risks. Concerns about the safety and efficacy of our product candidates could limit our future success.
- Clinical trials required for our product candidates are expensive and time-consuming, and their outcome is highly uncertain. If we are unable to commence our planned clinical trials, or if any of those clinical trials are delayed or yield unfavorable results, we may have to delay application for or may be unable to obtain regulatory approval for the marketing of our product candidates.
- Due to our reliance on third parties to conduct clinical trials on our behalf, we are unable to directly control the timing, conduct, expense and quality of our clinical trials, which could adversely affect our clinical data and results and related regulatory approvals.
- Our Common Stock is not listed on a national securities exchange and is considered a “penny stock,” with a low market capitalization, all of which makes it more difficult for our stock to trade in the financial markets, for research analysts at securities brokerage firms to write research reports about us, for investment banks to contract with us for services, and ultimately making it difficult for us to obtain necessary capital required to execute our business plan, which could restrict our ability to continue as a going concern and to grow.

- Regulatory and legal uncertainties could result in significant costs or otherwise harm our business.
- Our directors, executive officers and significant stockholders have substantial control over us and could limit stockholders' ability to influence the outcome of key transactions, including changes of control.

Implications of Being a Smaller Reporting Company

We are a “smaller reporting company” as defined in Rule 12b-2 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and have elected to take advantage of certain of the scaled disclosure available to smaller reporting companies.

Corporate History

The Company 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, the Company filed a Certificate of Amendment to its Second Restated Certificate of Incorporation (as amended to date, our “Certificate of Incorporation”) with the Secretary of State of the State of Delaware to change its name from Cortex Pharmaceuticals, Inc. to RespireRx Pharmaceuticals Inc.

In August 2012, the Company acquired Pier Pharmaceuticals, Inc. (“Pier”), which is now a wholly owned subsidiary. Pier was a clinical stage biopharmaceutical company developing a pharmacologic treatment for OSA and had been engaged, in research and clinical development activities which are now being conducted by RespireRx Pharmaceuticals Inc., Pier’s parent company.

Corporate Information

Our corporate mailing address is 126 Valley Road, Suite C, Glen Rock, NJ 07452. Our telephone number is (201) 444-4947, and our website is www.respirerx.com. The information on our website is not part of this prospectus. The information contained in or connected to our website is not incorporated by reference into, and should not be considered part of, this prospectus. Any information about us on LinkedIn, Twitter or other social media platforms should not be considered part of this prospectus, nor should any information about us posted by others on blogs, bulletin boards, in chat rooms or in similar media.

The RespireRx logo and certain trademarks of RespireRx Pharmaceuticals Inc. of or relating to any of its product candidates or program and platform names appearing in this prospectus are our property.

Offering Summary

Common Stock offered by the Selling Stockholder	Up to 115,000,000 shares of our Common Stock, issuable to the Selling Stockholder pursuant to a put right under the Purchase Agreement
Common Stock outstanding before this offering (1)	577,842,003 shares
Common Stock to be outstanding immediately after this offering (1)(2)	692,842,003 shares
Use of proceeds	We are not selling any shares of Common Stock in this offering and, as a result, will not receive any proceeds from this offering, although we will receive proceeds from the sale of shares of our Common Stock offered by the Selling Stockholder pursuant to our exercise of the put right under the Purchase Agreement. See “Use of Proceeds” on page 19.
Terms of the Offering	The Selling Stockholder will determine when and how it will sell the Common Stock offered in this prospectus
Termination of the Offering	The offering will conclude upon such time as all of the Common Stock offered in this prospectus has been sold or the offering is earlier terminated pursuant to the Purchase Agreement.
Risk Factors	You should read the “Risk Factors” section of this prospectus beginning on page 7 for a discussion of factors to consider carefully before deciding to invest in our securities
OTCQB symbol	“RSPI”

(1) The number of shares of our Common Stock outstanding before and after this offering is based on 577,842,003 shares of our Common Stock outstanding as of September 30, 2020, and excludes, as of such date:

- 71,660,938 shares of Common Stock issuable upon the exercise of outstanding stock options at a weighted average exercise price of \$0.19695 per share;
- 87,033,715 additional shares of Common Stock reserved and available for future issuances under our equity plans;
- 288,093,580 shares of Common Stock issuable upon exercise of stock purchase warrants at a weighted average exercise price of \$0.01474 per share;
- 47,239,857 shares of Common Stock issuable upon conversion of convertible promissory notes at a weighted average exercise price of \$0.01052 per share; and
- 11 shares of Common Stock issuable upon conversion of Series B Convertible Preferred Stock convertible at \$2,208.375 per share of Common Stock plus 6,497 shares identified as “Pier Contingent Shares”.

(2) Assumes 115,000,000 shares of Common Stock sold to the Selling Stockholder upon the Company’s exercise of its put option under the Purchase Agreement.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options or warrants or the conversion of the outstanding convertible notes or convertible preferred stock.

Summary Condensed Consolidated Financial Data

The following summary historical condensed consolidated financial information is derived from our condensed consolidated financial statements appearing elsewhere in this prospectus and should be read in conjunction with our condensed consolidated financial statements, including the accompanying notes thereto, beginning on page F-1. Our historical results for any period are not necessarily indicative of results to be expected in any other period, including the full fiscal year ending December 31, 2020. You should read this information together with the sections titled “Capitalization”, “Dilution” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included elsewhere in this prospectus.

Summary of Condensed Consolidated Statements of Operations

	Six-months ended June 30,		Year ended December 31,	
	2020	2019	2019	2018
	(unaudited)			
Operating expenses:				
General and administrative	\$ 829,019	\$ 594,904	\$ 1,137,175	\$ 1,488,238
Research and development	308,466	297,350	599,329	688,286
Total operating expenses	1,137,485	892,254	1,736,504	2,176,524
Loss from operations	(1,137,485)	(892,254)	(1,736,504)	(2,176,524)
Loss on extinguishment of debt and other liabilities in exchange for equity	(323,996)	-	-	(166,382)
Interest expense	(331,316)	(151,645)	(404,661)	(136,243)
Foreign currency transaction gain (loss)	29,942	26,354	26,132	(112,641)
Net loss attributable to common stockholders	\$ (1,762,855)	\$ (1,017,545)	\$ (2,115,033)	\$ (2,591,790)
Net loss per common share - basic and diluted	\$ (0.04)	\$ (0.26)	\$ (0.54)	\$ (0.77)
Weighted average common shares outstanding - basic and diluted	49,320,761	3,872,076	3,908,479	3,351,105

Summary Condensed Consolidated Balance Sheet Information

	June 30, 2020 (unaudited)	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,492	\$ 16,690
Prepaid expenses	84,191	28,638
Total current assets	85,683	45,328
Total assets	\$ 85,683	\$ 45,328
LIABILITIES AND STOCKHOLDERS’ DEFICIENCY		
Current liabilities:		
Accounts payable and accrued expenses, including accrued compensation and related expenses	\$ 6,577,312	\$ 5,855,871
Notes payable	1,355,119	1,634,276
Total current liabilities	7,932,431	7,490,147
Stockholders’ deficiency:		
Series B convertible preferred stock, \$0.001 par value; \$0.6667 per share liquidation preference	21,703	21,703
Common stock, \$0.001 par value	222,307	4,175
Additional paid-in capital	160,181,182	159,038,388
Accumulated deficit	(168,271,940)	(166,509,085)
Total stockholders’ deficiency	(7,846,748)	(7,444,819)
Total liabilities and stockholders’ deficiency	\$ 85,683	\$ 45,328

RISK FACTORS

Any investment in our securities involves a high degree of risk. Investors should carefully consider the risks described below and all of the information contained in this prospectus before deciding whether to purchase our securities. Our business, financial condition or results of operations could be materially adversely affected by these risks if any of them actually occur. This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks we face as described below and elsewhere in this prospectus.

Risks Related to the COVID-19 pandemic

The novel coronavirus (COVID-19) pandemic may negatively impact our ability to successfully develop and commercialize our product candidates and technologies and may ultimately affect our business, financial condition and results of operations.

In March 2020, the World Health Organization declared COVID-19 a global pandemic, and governmental authorities around the world have implemented measures to reduce the spread of COVID-19. These measures have adversely affected workforces, customers, supply chains, consumer sentiment, economies, and financial markets, and, along with decreased consumer spending, have led to an economic downturn across many global economies. The COVID-19 pandemic rapidly escalated in the United States and continues to evolve, creating significant uncertainty and economic disruption, and leading to record levels of unemployment nationally. Numerous state and local jurisdictions had imposed, and those and others in the future may impose, shelter-in-place orders, quarantines, shut-downs of non-essential businesses, and similar government orders and restrictions on their residents to control the spread of COVID-19.

The COVID-19 pandemic and government responses thereto have made it very difficult to recruit clinical trial subjects and patients and to conduct clinical trials in general. We expect the life sciences industry and clinical trial activity to continue to face challenges arising from quarantines, site closures, travel limitations, interruptions to the supply chain for investigational products and other considerations if site personnel or trial subjects become infected with or are significantly at risk of contracting COVID-19. These challenges may lead to difficulties in meeting protocol-specified procedures. Further, in response to the public health emergency, the FDA issued guidance in March and July 2020 emphasizing that safety of trial participants is critically important. Decisions to continue or discontinue individual patients or the trial are expected to be made by trial sponsors in consultation with clinical investors and Institutional Review Boards, which may lead to the implementation of additional protocols such as COVID-19 screening procedures, resulting in potential delays and additional costs. The risks, strategic and operational challenges and costs of conducting such trials as a result of the global pandemic have exacerbated an already challenging clinical trial process, which may negatively impact our ability to plan or conduct trials if we secure sufficient financing to enable us to pursue such activity.

In addition, we expect to be impacted by the downturn in the U.S. economy, which could have an adverse impact on our ability to raise capital and our business operations.

The extent to which COVID-19 ultimately impacts our business, financial condition and results of operations will depend on future developments, which are highly uncertain and unpredictable, including new information which may emerge concerning the severity and duration of the COVID-19 pandemic and the effectiveness of actions taken to contain the COVID-19 pandemic or treat its impact, among others. Additionally, the extent to which COVID-19 ultimately impacts our operations will depend on a number of factors, many of which will be outside of our control. The COVID-19 pandemic is evolving and new information emerges regularly; accordingly, the ultimate consequences of the COVID-19 pandemic cannot be predicted with certainty. In addition to the disruptions adversely impacting our business and financial results, they may also have the effect of heightening many of the other risks described in these risk factors, including risks relating to our ability to begin to generate revenue, to generate positive cash flow, our relationships with third parties, and many other factors. We will attempt to minimize these impacts, but there can be no assurance that we will be successful in doing so.

Risks Related to Our Business and Our Need for Financing

Our independent registered public accounting firm has expressed substantial doubt about our ability to continue as a going concern.

In its audit opinion issued in connection with our consolidated financial statements as of December 31, 2019 and 2018, our independent registered public accounting firm expressed substantial doubt about our ability to continue as a going concern given our limited working capital, recurring net losses and negative cash flows from operations. The accompanying condensed consolidated financial statements at June 30, 2020 have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The condensed consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or amounts of liabilities that might be necessary should we be unable to continue in existence. While we have relied principally in the past on external financing to provide liquidity and capital resources for our operations, we can provide no assurance that cash generated from our operations together with cash received in the future from external financing, if any, will be sufficient to enable us to continue as a going concern.

Our independent registered public accounting firm has identified material weaknesses in our financial reporting process.

At December 31, 2019, our independent registered public accounting firm identified material weaknesses in our internal control over financial reporting. There can be no assurance that we will be able to successfully implement our plans to remediate the material weaknesses in our financial reporting process. Our failure to successfully implement our plans to remediate these material weaknesses could cause us to fail to meet our reporting obligations, to produce timely and reliable financial information, and to effectively prevent fraud. Additionally, such failure, or other weaknesses that we may experience in our financial reporting process or other internal controls, could cause investors to lose confidence in our reported financial information, which could have a negative impact on our financial condition and stock price.

We have a history of net losses; we expect to continue to incur net losses and we may never achieve or maintain profitability.

Since our formation on February 10, 1987 through the end of our most recent fiscal quarter ended June 30, 2020, we have generated only negligible operating revenues. For the six months ended June 30, 2020, our net loss was \$1,762,855 and as of June 30, 2020, we had an accumulated deficit of \$168,271,940. We have not generated any revenue from product sales to date, we do not expect to generate revenue in the near term, and it is possible that we will never generate revenues from product sales in the future. Even if we do achieve significant revenues from product sales, we expect to continue to incur significant net losses over the next several years. As with other biopharmaceutical companies, it is possible that we will never achieve profitable operations.

We will need additional capital in the near term and the future and, if such capital is not available on terms acceptable to us or available to us at all, we may be unable to continue our business operations.

We require additional cash resources for basic operations and will require substantial additional funds to advance our research and development programs and to continue our operations, particularly if we try to independently conduct later-stage clinical testing and apply for regulatory approval of any of our product candidates, and if we try to independently undertake the marketing and promotion of our product candidates if they are approved for commercialization. Additionally, we may require additional funds in the event that we decide to pursue strategic acquisitions of or licenses to use other products or businesses. Our existing cash resources will not be sufficient to meet our requirements for the rest of 2020, and any net cash proceeds that we are able to generate through the exercise of our put right under the Purchase Agreement, by itself, will be insufficient to continue our operations. We also need additional capital in the near term to fund ongoing operations, including basic operations. Additional funds may come from the sale of common equity, preferred equity, convertible preferred equity or equity-linked securities, debt, including debt convertible into equity, or may result from agreements with larger pharmaceutical, biopharmaceutical, biotechnology, specialty pharmaceutical, or other healthcare companies that include the license or rights to the technologies and product candidates that we are currently developing, although there is no assurance that we will secure any such funding or other transaction in a timely manner, or at all. As a result, our outstanding shares of Common Stock may be significantly diluted and/or subject to senior rights of preferred equity holders.

Our cash requirements in the future may differ significantly from our current estimates, depending on a number of factors, including:

- our ability to raise equity or debt capital, or our ability to obtain in-kind services which may be more difficult during the COVID-19 pandemic;
- the results of any preclinical studies and clinical trials we may conduct;
- the time and costs involved in obtaining regulatory approvals;
- the costs of setting up and operating our own marketing and sales organization;
- the ability to obtain funding under contractual and licensing agreements or grants;
- the costs involved in obtaining and enforcing patents or engaging in litigation with third parties regarding intellectual property;
- the costs involved in meeting our contractual obligations including employment agreements; and
- our success in entering into collaborative relationships with other parties.

To finance our future activities, we may seek funds through additional rounds of financing, including private or public equity or debt offerings and collaborative arrangements with corporate partners. We may also seek to exchange or restructure some of our outstanding securities to provide liquidity, strengthen our balance sheet and provide flexibility. We cannot say that any of these measures will be successful, or that we will be able to obtain the additional needed funds on reasonable terms, or at all. The sale of additional equity or convertible debt securities could result in additional and possibly substantial dilution to our stockholders. If we issued preferred equity or debt securities, these securities could have rights superior to holders of our Common Stock, and such instruments entered into in connection with the issuance of securities could contain covenants that will restrict our operations. We might have to obtain funds or in-kind services through arrangements with collaborative partners or others that may require us to relinquish certain or all rights to certain of our technologies, product candidates or products that we otherwise would not relinquish. If adequate funds are not available in the future, as required, we could lose our key employees and might have to further delay, scale back or eliminate one or more of our research and development programs, which would impair our future prospects. In addition, we may be unable to meet our research spending obligations under our existing licensing agreements and may be unable to continue our business operations.

Common Stock reserve requirements may restrict our ability to raise capital and continue to operate our business

Common Stock reserve requirements may restrict our ability to raise capital and continue to operate our business. We have received temporary waivers of certain of the Common Stock reserve requirements associated with certain of our convertible notes and certain related warrants. These waivers are necessary to ensure that we do not default on such notes or the terms of such warrants while we are seeking to increase the number of authorized shares of our Common Stock. As of September 30, 2020 taking into account the waivers and the transactions effected on that date, the Company was required to reserve 251,011,042 shares of its authorized and unissued Common Stock with respect to such notes and warrants that were not subject to such waivers and after reserving for outstanding options and other outstanding warrants, and had 422,157,997 shares of authorized but unissued shares of Common Stock, including 87,036,986 authorized, unissued and unreserved shares of Common Stock available. If we breach the contractual reserve requirements we will be in default of such contractual obligations which may have material adverse consequences which may make it more difficult to raise additional necessary capital. The Company is seeking stockholder approval over a ten-to-one (10:1) reverse stock split and an increase in our authorized capital stock, both of which would provide the Company additional authorized but unissued and unreserved capital stock available for future issuances. See “Prospectus Summary—Recent Developments.”

Our product opportunities rely on licenses from research institutions and if we lose access to these technologies or applications, our business could be substantially impaired.

Through our acquisition of Pier, we gained access to a pre-existing relationship between Pier and the University of Illinois at Chicago (the “UIC”). Effective in September 2014, the Company entered into an exclusive license agreement (the “UIC License Agreement”) with the UIC, which gave the Company certain exclusive rights with respect to certain patents and patent applications in the United States and other countries claiming the use of dronabinol and other cannabinoids for the treatment of sleep-related breathing disorders, including sleep apnea. The UIC License Agreement obligates the Company to comply with various commercialization and reporting requirements and to make various royalty payments, including potential one-time and annual royalty payments, as well as payments upon the achievement of certain development milestones.

The Company and UWMRF executed the UWMRF Patent License Agreement effective August 1, 2020 pursuant to which RespireRx licensed the intellectual property identified therein, including with respect to GABAkines. In consideration for the licenses granted, the Company will pay to UWMRF patent filing and prosecution costs, annual license maintenance fees, one-time milestone payments, and annual royalties.

If we are unable to comply with the terms of these licenses, such as required payments thereunder, these licenses might be terminated.

We may not be able to successfully develop and commercialize our product candidates and technologies.

The development of our product candidates is subject to risks commonly experienced in the development of products based upon innovative technologies and the expense and difficulty of obtaining approvals from regulatory agencies. Drug discovery and development is time consuming, expensive and unpredictable. On average, only one out of many thousands of chemical compounds discovered by researchers proves to be both medically effective and safe enough to become an approved medicine. All of our product candidates are in the preclinical or early to mid-clinical stage of development and although we have previously completed certain Phase 2 trials, and although we are planning for additional preclinical and clinical trials, including potentially an advanced-clinical stage trial, we do not have any currently active trials. Accordingly, we will require significant additional funding for research, development and clinical testing of our product candidates, which may not be available on favorable terms or at all, before we are able to submit them to any of the regulatory agencies for clearances for commercial use.

The process from discovery to development to regulatory approval can take several years and drug candidates can fail at any stage of the process. Late stage clinical trials often fail to replicate results achieved in earlier studies. We cannot be certain that we will be able to successfully complete any of our research and development activities.

Even if we do complete our research and development activities, we may not be able to successfully market any of the product candidates or be able to obtain the necessary regulatory approvals or assure that healthcare providers and payors will accept our product candidates. We also face the risk that any or all of our product candidates will not work as intended or that they will be unsafe, or that, even if they do work and are safe, that our product candidates will be uneconomical to manufacture and market on a large scale. Due to the extended testing and regulatory review process required before we can obtain marketing clearance, we do not expect to be able to commercialize any therapeutic drug for several years, either directly or through our corporate partners or licensees.

We may not be able to enter into the strategic alliances necessary to fully develop and commercialize our product candidates and technologies, and we will be dependent on our strategic partners if we do.

We are seeking pharmaceutical company and other strategic partners to participate with us in the development of major indications for our cannabinoid and neuromodulator compounds. These relationships may be structured as agreements that would provide us with additional funds or in-kind services in exchange for exclusive or non-exclusive license or other rights to the technologies and products that we are currently developing. Competition between biopharmaceutical companies for these types of arrangements is intense. We cannot give any assurance that our discussions with candidate companies will result in an agreement or agreements in a timely manner, or at all. Additionally, we cannot assure you that any resulting agreement will generate sufficient revenues to offset our operating expenses and longer-term funding requirements.

We may not be able to compete with other biopharmaceutical or pharmaceutical companies in research, development or the marketing our products.

The pharmaceutical industry is characterized by intensive research efforts, rapidly advancing technologies, intense competition and a strong emphasis on proprietary therapeutics. Our competitors include many companies, research institutes and universities that are working in a number of pharmaceutical or biotechnology disciplines to develop therapeutic products similar to those we are currently investigating. Most of these competitors have substantially greater financial, technical, manufacturing, marketing, distribution or other resources than we do. In addition, many of our competitors have experience in performing human clinical trials of new or improved therapeutic products and obtaining approvals from the FDA and other regulatory agencies. We have no experience in conducting and managing later-stage clinical testing or in preparing applications necessary to obtain regulatory approvals. We expect that competition in this field will continue to intensify.

Our patents and patent applications do not cover the entire world, thus limiting the potential exclusive commercialization of our products to those countries in which we have intellectual property protection. We are aware of at least one company that may be developing a product or product similar to one of our prospective products for our proposed indication in countries where we do not have intellectual property protection. Such company or companies may choose to compete with us in countries where we do have intellectual property protection and cause us to expend resources defending our intellectual property. A liberal regulatory environment or unenforced or poorly enforced regulations may encourage competition from non-drug products such as medical marijuana or dietary supplements and similar products containing cannabis-derived molecules making claims that would be competitive with our proposed regulatory-approved claims. Since our target markets are very large, there is a great deal of economic incentive for others to enter and compete in those markets. We must compete with other companies with respect to their research and development efforts and for capital and other forms of funding. An inability to compete would have a material adverse impact on our business operations.

If our third-party manufacturers' facilities do not follow current good manufacturing practices, our product development and commercialization efforts may be harmed.

There are a limited number of manufacturers that operate under the FDA's and European Union's good manufacturing practices regulations and are capable of manufacturing products like those we are developing. Third-party manufacturers may encounter difficulties in achieving quality control and quality assurance and may experience shortages of qualified personnel. A failure of third-party manufacturers to follow current good manufacturing practices or other regulatory requirements and to document their adherence to such practices may lead to significant delays in the availability of products for clinical study or commercial use, the termination of, or the placing of a hold on a clinical study, or may delay or prevent filing or approval of marketing applications for our product candidates. In addition, we could be subject to sanctions, including fines, injunctions and civil penalties. Changing manufacturers may require additional clinical trials and the revalidation of the manufacturing process and procedures in accordance with FDA-mandated current good manufacturing practices and would require FDA approval. This revalidation may be costly and time consuming. If we are unable to arrange for third-party manufacturing of our product candidates, or to do so on commercially reasonable terms, we may not be able to complete development or marketing of our product candidates.

We have announced a restructuring plan to facilitate the financing of our business initiatives. We may not achieve some or all of the expected benefits of our restructuring plan and the restructuring may adversely affect our business.

As further discussed in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this prospectus, the Company is considering an internal restructuring plan that contemplates spinning out our two drug platforms under ResolutionRx and EndeavourRx into separate operating businesses or subsidiaries. The intent of this restructuring is to facilitate financing of the programs and platforms underlying ResolutionRx and EndeavourRx, and to better align our human resources with our clinical development strategy.

Implementation of a restructuring plan is costly and disruptive to our business, and we may encounter unexpected costs while implementing the restructuring plan. Even if implemented, may not be successful in attracting the necessary sources of financing or recruiting the necessary human resources to achieve the intended results. As such, we may not be able to obtain the estimated benefits that are initially anticipated in connection with our restructuring in a timely manner or at all. We may need to undertake additional restructurings in the future. As a result of any restructuring, we may experience a loss of continuity, loss of accumulated knowledge and/or inefficiency during transitional periods and may lose momentum in the development of our product candidates. Additionally, reorganization and restructuring can require a significant amount of management and other employees' time and focus, which may divert attention from operating and growing our business. Any failure to properly execute the restructuring plans could result in total costs that are greater than expected and cause us not to achieve the expected long-term operational benefits, and might adversely affect our financial condition, operating results and future operations.

Our ability to use our net operating loss carry forwards will be subject to limitations upon a change in ownership, which could reduce our ability to use those loss carry forwards following any change in Company ownership.

Generally, a change of more than 50% in the ownership of a Company's stock, by value, over a three-year period constitutes an ownership change for U.S. federal income tax purposes. An ownership change may limit our ability to use our net operating loss carry forwards attributable to the period prior to such change. We have sold or otherwise issued shares of our Common Stock in various transactions sufficient to constitute an ownership change. As a result, if we earn net taxable income in the future, our ability to use our pre-change net operating loss carry forwards to offset U.S. federal taxable income will be subject to limitations, which would restrict our ability to reduce future tax liability. Future shifts in our ownership, including transactions in which we may engage, may cause additional ownership changes, which could have the effect of imposing additional limitations on our ability to use our pre-change net operating loss carry forwards.

We have not voluntarily implemented various corporate governance measures, in the absence of which stockholders may have more limited protections against interested director transactions, conflicts of interests and similar matters.

We have not adopted any corporate governance measures, since our securities are not yet listed on a national securities exchange and we are not required to do so. We have not adopted corporate governance measures such as separate audit or other independent committees of our Board as we presently have only one independent director. If we expand our board membership in future periods to include additional independent directors, we may seek to establish an audit and other committees of our Board. It is possible that if our Board included additional independent directors and if we were to adopt some or all of these corporate governance measures, stockholders would benefit from somewhat greater assurances that internal corporate decisions were being made by disinterested directors and that policies had been implemented to define responsible conduct. For example, in the absence of audit, nominating and compensation committees comprised of at least a majority of independent directors, decisions concerning matters such as compensation packages to our senior officers and recommendations for director nominees may be made by a majority of directors who have an interest in the outcome of the matters being decided. Prospective investors should bear in mind our current lack of corporate governance measures in formulating their investment decisions.

Risks Related to this Offering

The Selling Stockholder will pay less than the then-prevailing market price for our Common Stock.

Our Common Stock to be sold to the Selling Stockholder pursuant to the Purchase Agreement will be purchased at a price equal to eighty-five percent (85%) of the lowest daily volume weighted average price during a pricing period of five consecutive trading days prior to the date that the Selling Stockholder purchases and pays for such shares. The Selling Stockholder has a financial incentive to sell our Common Stock immediately upon receiving the shares to realize the profit equal to the difference between the discounted price and the market price, and will have the right and ability to sell the shares during the pricing period. If the Selling Stockholder sells the shares, the price of our Common Stock could decrease. Regardless of whether our stock price decreases, the Selling Stockholder may continue to have incentive to sell the shares of our Common Stock that it holds, due to the ongoing discount. These sales may have a further downward impact on our stock price. If the price of our Common Stock falls to par value of \$0.001 per share, we may be unable to utilize the put options and access the equity line.

We may not be able to access sufficient funds under the Purchase Agreement when needed.

Our ability to put shares to the Selling Stockholder and obtain funds under the Purchase Agreement is limited by the terms and conditions in the Purchase Agreement, including restrictions on when we may exercise our put right, restrictions on the amount we may put to the Selling Stockholder at any one time, which is determined in part by the trading volume of our Common Stock, and a limitation on our ability to put shares to the Selling Stockholder to the extent that it would cause the Selling Stockholder to beneficially own more than 4.99% of our outstanding shares. In addition, we do not expect the commitment under the Purchase Agreement to satisfy all of our funding needs, even if we are able and choose to take full advantage of the commitment.

The Selling Stockholder may sell a large number of shares under the Purchase Agreement, causing dilution and downward pricing pressure.

Although the Purchase Agreement contains a beneficial ownership limitation that provides that the Selling Stockholder is not obligated to purchase shares thereunder to the extent such purchase would result in the Selling Stockholder or its affiliates beneficially owning more than 4.99% of our Common Stock at any one time, such limitation does not prevent the Selling Stockholder from selling shares of our Common Stock received in connection with a put exercise, and then receiving additional shares of our Common Stock in connection with a subsequent put exercise. In this way, the Selling Stockholder could sell more than 4.99% of the outstanding Common Stock in a relatively short time frame while never holding more than 4.99% at one time. Large issuances to the Selling Stockholder under the Purchase Agreement could cause significant dilution, and the resulting high volume of sales by the Selling Stockholder could put further downward pressure on the trading price of our Common Stock. We will, however, have complete control over when, or if, to exercise our put right.

Risks Related to the Trading and Ownership of our Common Stock and our Capital Structure

Our stock price is volatile and our Common Stock could decline in value.

Our Common Stock is currently quoted for public trading on the OTCQB Venture Market. The trading price of our Common Stock has been subject to wide fluctuations and may fluctuate in response to a number of factors, many of which will be beyond our control.

The market price of securities of life sciences companies in general has been very unpredictable. Broad market and industry factors may adversely affect the market price of our Common Stock, regardless of our operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted. Such litigation, if instituted, could result in substantial costs for us and a diversion of management's attention and resources.

The range of sales prices of our Common Stock for the period between January 1, 2020 and September 30, 2020 and the fiscal year ended December 31, 2019, as quoted on the OTCQB, was \$0.0033 to \$0.1499 and \$0.0771 to \$0.8500, respectively. The following factors, in addition to factors that affect the market generally, could significantly affect our business, and may cause volatility or a decline in the market price of our Common Stock:

- competitors announcing technological innovations or new commercial products;
- competitors' publicity regarding actual or potential products under development;
- regulatory developments in the United States and foreign countries;
- legal developments regarding cannabinoids and cannabis products in the United States and foreign countries;
- developments concerning proprietary rights, including patent litigation;
- public concern over the safety of therapeutic products;
- changes in healthcare reimbursement policies and healthcare regulations;
- future issuances and sales of our Common Stock, including pursuant to conversions of our outstanding convertible instruments and this offering;
- our Common Stock being delisted from the OTCQB; and
- failure to raise additional needed funds.

At times, our Common Stock is thinly traded and you may be unable to sell some or all of your shares at the price you would like, or at all, and sales of large blocks of shares may depress the price of our Common Stock.

Our Common Stock has historically been sporadically or "thinly" traded, meaning that the number of persons interested in purchasing shares of our Common Stock at prevailing prices at any given time may be relatively small or non-existent. Recently, our Common Stock has been more "broadly" traded, meaning that it has been trading in higher volumes; however, there can be no assurance that this attribute will continue. As a consequence, there may be periods of several days or more when trading activity in shares of our Common Stock is minimal or non-existent, as compared to a seasoned issuer that has a large and steady volume of trading activity that will generally support continuous sales without an adverse effect on share price. This could lead to wide fluctuations in our share price. You may be unable to sell our Common Stock at or above your purchase price, which may result in substantial losses to you. Also, as a consequence of this lack of liquidity, the trading of relatively small quantities of shares by our stockholders may disproportionately influence the price of shares of our Common Stock in either direction. The price of shares of our Common Stock could, for example, decline precipitously in the event a large number of shares of our Common Stock are sold on the market without commensurate demand, as compared to a seasoned issuer which could better absorb those sales with a lesser or no adverse impact on its share price.

Future sales could depress the market price for our Common Stock.

If we issue additional equity or equity-based securities, the number of shares of our Common Stock outstanding could increase substantially, which could substantially dilute the holdings of existing stockholders, adversely affect the prevailing market price of our Common Stock and make it more difficult for us to raise funds through future offerings of Common Stock.

As of September 30, 2020, we had 577,842,003 shares of our Common Stock outstanding, and we are registering the resale of up to 115,000,000 shares of Common Stock under the registration statement of which this prospectus forms a part. As of the date of this prospectus, none of the 115,000,000 shares are included in the number of outstanding shares of Common Stock as of September 30, 2020.

If all warrants and options outstanding as of September 30, 2020 were exercised prior to their respective expiration dates, up to 288,093,580 additional shares of our Common Stock could become freely tradable. As of September 30, 2020, there were remaining outstanding convertible notes totaling \$538,224 inclusive of accrued interest. Of that amount, \$497,009 was convertible into 47,239,857 shares of Common Stock and the remainder into an indeterminate number of shares of Common Stock as such notes may convert, at the option of each note holder, acting separately and independently of the other note holders, into the next exempt private securities offering of equity securities. As is referenced elsewhere in this filing, parties to which we have issued such convertible instruments include Power Up Lending Group Ltd., Crown Bridge Partners, LLC, FirstFire Global Opportunities Fund LLC, EMA Financial, LLC, and the Selling Stockholder.

A large percentage of the Company's shares are held by a few stockholders, some of whom are affiliated with members of the Company's management and our board of directors. As these principal stockholders substantially control the Company's corporate actions, our other stockholders may face difficulty in exerting any influence over matters not supported by these principal stockholders.

The Company's principal stockholders include (i) the Arnold Lippa Family Trust of 2007 (the "Lippa Trust"), (ii) the Jeff Eliot Margolis 2016 Trust, (iii) the Jeff Eliot Margolis Trust for the Benefit of Matthew Shane Margolis, (iv) Jeff Eliot Margolis Trust for the Benefit of Emily Alexa Margolis, (v) Dawn Gross Margolis 2016 Trust, (vi) Dawn Gross Margolis Trust for the Benefit of Matthew Shane Margolis, and (vii) Dawn Gross Margolis Trust for the Benefit of Emily Alexa Margolis (collectively, (ii), (iii), (iv), (v), (vi) and (vii) the "Margolis Trusts" and with the Lippa Trust, the "Trusts"). The trustee of the Margolis trusts is the spouse of Jeff E. Margolis. Mr. Margolis, the Company's Senior Vice President, Chief Financial Officer, Treasurer and Secretary, is affiliated with the Margolis Trusts and may be deemed to have an indirect beneficial ownership interest in the stock owned by the Trusts. Arnold S. Lippa is neither the trustee nor the beneficiary of the Lippa Trust. In addition, Timothy L. Jones, the Company's President and Chief Executive Officer and a director, owns 4,409,063 shares of Common Stock. As of September 30, 2020, these principal stockholders collectively owned 225,175,088 shares of Common Stock and warrants to purchase an additional 216,100,903 shares of Common Stock. These stockholders, acting individually or as a group, may be able to exert control or significant influence over matters such as electing directors, amending the Certificate of Incorporation or Bylaws, or approving mergers or other business combinations or transactions. In addition, because of the percentage of ownership and voting concentration in these principal stockholders, elections of the directors on the Board may be within the control of these stockholders. While all of the Company's stockholders are entitled to vote on matters submitted to the Company's stockholders for approval, the concentration of shares and voting influence or control presently lies with these principal stockholders. As such, it would be difficult for stockholders to propose and have approved proposals not supported by these principal stockholders. There can be no assurance that matters voted upon by the Company's officers and directors in their capacity as stockholders will be viewed favorably by all stockholders of the Company. The stock ownership of the Company's principal stockholders may discourage a potential acquirer from seeking to acquire shares of the Company's common stock which, in turn, could reduce the Company's stock price or prevent the Company's stockholders from realizing a premium over the Company's stock price.

Our Certificate of Incorporation, Series H Preferred Stock and other governing documents may prevent or delay an attempt by our stockholders to replace or remove management.

Certain provisions of our Certificate of Incorporation could make it more difficult for a third party to acquire control of our business, even if such change in control would be beneficial to our stockholders. Our Certificate of Incorporation allows the Board to issue up to 5,000,000 shares of preferred stock, with characteristics to be determined by the Board, without stockholder approval. The ability of our Board to issue additional preferred stock may have the effect of delaying or preventing an attempt by our stockholders to replace or remove existing directors and management.

Historically, warrants to purchase Common Stock have been issued as compensation for professional services, typically related to fund raising or in connection with the issuance of promissory notes.

In addition, certain executive officers, members of the Board and certain vendors have offered to forgive accrued compensation and other amounts due to them, and the Board accepted such offers in exchange for either shares of Common Stock, options to purchase Common Stock, or preferred stock convertible into Common Stock. Specifically, in fiscal year 2020, three officers and directors of the Company exchanged the right to receive payment of accrued compensation in return for shares of Common Stock and for shares of Series H 2% Voting, Non-Participating, Convertible Preferred Stock ("Series H Preferred Stock"), which entitles these officers to that number of votes equal to two times the number of Common Stock into which such holder's Series H Preferred Stock would be convertible. All such outstanding shares of Series H Preferred Stock have been fully converted into shares of Common Stock and warrants to purchase shares of Common Stock.

If executive officers offer and if the Board accepts such offers in the future, a significant number of shares of Common Stock or one or more options to purchase, or shares of preferred stock convertible into, a significant number of shares of Common Stock could be issued or granted. The ability of our Board to issue additional shares of Common Stock, options to purchase shares of Common Stock, warrants to purchase shares of Common Stock, or preferred stock convertible into Common Stock may have the effect of delaying or preventing an attempt by our stockholders to replace or remove existing directors and management.

Our Common Stock is deemed a “penny stock,” which a broker-dealer may find more difficult to trade and an investor may find more difficult to acquire or dispose of in the secondary market.

Our Common Stock is subject to the so-called “penny stock” rules. The SEC has adopted regulations that define a “penny stock” to be any equity security that has a market price per share of less than \$5.00, subject to certain exceptions, such as any securities listed on a national securities exchange. For any transaction involving a “penny stock,” unless exempt, the rules impose additional sales practice requirements on broker-dealers, subject to certain exceptions. If our Common Stock remains a “penny stock,” a broker-dealer may find it more difficult to trade our Common Stock and an investor may find it more difficult to acquire or dispose of our Common Stock on the secondary market. Recently, our Common Stock has been trading below a penny. Many broker-dealers do not accept for deposit shares of common stock that trade below a penny, and those that do accept such shares for deposit place limitations on the deposit or charge higher fees associated with the deposit, the transactions in the shares of common stock or with respect to the account in general. Taking these additional factors together, and investor may find it even more difficult to acquire or dispose of our Common Stock.

We may issue additional shares of our Common Stock, and investment in our company is likely to be subject to substantial dilution.

Investors’ interests in the Company will be diluted and investors may suffer dilution in their net book value per share when we issue additional shares, including pursuant to this offering. Dilution is the difference between what investors pay for their stock and the net tangible book value per share immediately after the additional shares are purchased. We are authorized to issue up to 1,000,000,000 shares of Common Stock and our Board has authorized an increase to 2,000,000,000, subject to stockholder approval. Our financing activities in the past focused on convertible note financing that requires us to issue shares of Common Stock to satisfy principal, interest and any applicable penalties related to these convertible notes. When required under the terms and conditions of the convertible notes, we issue additional shares of Common Stock that have a dilutive effect on our stockholders. We anticipate that all or at least a substantial portion of our future funding, if any, will be in the form of equity financing from the sale of our Common Stock and so any investment in the Company will likely be diluted, with a resulting decline in the value of our Common Stock.

Additional financing may not be available on terms acceptable to us, and our ability to raise capital through equity financing may be limited by the number of authorized shares of our Common Stock. In order to raise significant additional amounts from equity financing, we will need to seek stockholder approval to amend our Certificate of Incorporation to increase the number of authorized shares of our Common Stock, and any such amendment would require the approval of the holders of a majority of the outstanding shares of our Common Stock. If we are unable to obtain needed financing on acceptable terms, we may not be able to implement our business plan, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our Common Stock may be subject to removal from the OTC Markets OTCQB quotation service if our stock closes at a price below \$0.01 for a period of 90 days.

Our Common Stock currently trades, and for a period in excess of 30 calendar days has traded, below \$0.01 per share on the OTCQB Venture Market. To continue to meet the OTCQB Venture Market Standards for Continued Eligibility for OTCQB as per the OTCQB Standards, Section 2.3(2), our Common Stock must have a closing bid of \$0.01 per share for more for 10 consecutive trading days. We have received an extension of time until December 10, 2020 to cure the deficiency. If we do not cure the deficiency, our Common Stock would no longer be eligible to trade on the OTCQB Venture Market. A downgrade to a lower OTC Pink market would likely have a material adverse impact on the trading of our Common Stock because fewer brokerage firms would be making markets in our Common Stock or eligible to transact business in our Common Stock. Stocks that trade on OTC Pink are often considered to be stocks of companies in financial distress, not current or less transparent in their financial reporting. Management believes that strategies are available to bring the Company’s stock price back into compliance, including potentially effectuating a reverse share split, although there is no assurance that any of those strategies will have the desired result. The Company is seeking stockholder approval for a ten-to-one (10:1) reverse stock split. See “Prospectus Summary—Recent Developments.”

Furthermore, we may not issue shares for consideration of less than par value of \$0.001, and should the share price of our Common Stock fall below par value, our ability to exercise put options to the Selling Stockholder would be materially impacted, which could render the equity line unavailable to us and impact our operations.

Delaware law, our Certificate of Incorporation and our Bylaws provides for the indemnification of our officers and directors at our expense, and correspondingly limits their liability, which may result in a major cost to us and hurt the interests of our shareholders because corporate resources may be expended for the benefit of officers and/or directors.

Our Certificate of Incorporation and By-Laws of the Company, as amended (the “Bylaws”) include provisions that eliminate the personal liability of our directors for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director’s duty of loyalty to the Company or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived an improper personal benefit. These provisions eliminate the personal liability of our directors and our shareholders for monetary damages arising out of any violation of a director of his fiduciary duty of due care, but do not affect a director’s liabilities under the federal securities laws or the recovery of damages by third parties.

We do not intend to pay cash dividends on any investment in the shares of stock of our Company and any gain on an investment in our Company will need to come through an increase in our stock’s price, which may never happen.

We have never paid any cash dividends and currently do not intend to pay any cash dividends for the foreseeable future. To the extent that we require additional funding currently not provided for, our funding sources may prohibit the payment of a dividend. Because we do not currently intend to declare dividends, any gain on an investment in our Company will need to come through an increase in our Common Stock’s price. This may never happen, and investors may lose all of their investment in our Company.

FINRA sales practice requirements may also limit a stockholder’s ability to buy and sell our stock.

In addition to the “penny stock” rules described above, the Financial Industry Regulatory Authority (“FINRA”) has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low-priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer’s financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low-priced securities will not be suitable for at least some customers. FINRA requirements make it more difficult for broker-dealers to recommend that their customers buy our Common Stock, which may limit your ability to buy and sell our stock and have an adverse effect on the market for our shares.

Costs and expenses of being a reporting company under the Exchange Act are substantial and prevent us from achieving profitability.

We are subject to the reporting requirements of the Exchange Act and aspects of the Sarbanes-Oxley Act. We expect that the requirements of these rules and regulations will continue to comprise a substantial portion of our legal, accounting and financial compliance costs, and to make some activities more difficult, time-consuming and costly, placing significant strain on our personnel, systems and resources.

If we fail to remain current on our reporting requirements, we could be removed from the OTCQB, which would limit the ability of broker-dealers to sell our Common Stock and the ability of stockholders to sell their Common Stock in the secondary market.

Companies trading on the OTCQB must be reporting issuers under Section 12 of the Exchange Act, and must be current in their filings under the Exchange Act to maintain price quotation privileges on the OTCQB. If we fail to remain current on our reporting requirements, we could be removed from the OTCQB and be forced to be traded on the OTC Pink Sheets, which requires a more challenging stock purchase process. As a result, the liquidity for our Common Stock could be adversely affected by limiting the ability of broker-dealers to sell our common stock and the ability of stockholders to sell their Common Stock in the secondary market. The OTCQB is recognized by the SEC as an established public market. The OTC Pink Sheets is the lowest and most speculative tier of the three marketplaces for the trading of over-the-counter stocks.

OTC Pink Sheets shares generally trade thinly and infrequently making it hard to buy or sell when the investor wants to complete a transaction. Accordingly, the market for our Common Stock would be significantly diminished if we were forced to trade on the OTC Pink Sheets market.

There could be unidentified risks involved with an investment in our securities.

The foregoing risk factors are not a complete list or explanation of the risks involved with an investment in the securities. Additional risks will likely be experienced that are not presently foreseen by the Company. Prospective investors must not construe this the information provided herein as constituting investment, legal, tax or other professional advice. Before making any decision to invest in our securities, you should read this entire prospectus and consult with your own investment, legal, tax and other professional advisors. An investment in our securities is suitable only for investors who can assume the financial risks of an investment in the Company for an indefinite period of time and who can afford to lose their entire investment. The Company makes no representations or warranties of any kind with respect to the likelihood of the success or the business of the Company, the value of our securities, any financial returns that may be generated or any tax benefits or consequences that may result from an investment in the Company.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. In some cases, you can identify forward-looking statements by the following words: “anticipate,” “assume,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “ongoing,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would,” or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words, 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 product candidates, (iv) reorganization plans, and (v) the need for, and availability of, additional financing. Forward-looking statements are not a guarantee of future performance or results and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time the statements are made and involve known and unknown risks, uncertainties and other factors that may cause our results, levels of activity, performance or achievements to be materially different from the information expressed or implied by the forward-looking statements in this report.

These factors include but are not limited to, regulatory policies or changes thereto, available cash, research and development results, issuance of patents, competition from other similar businesses, interest of third parties in collaborations with us, and market and general economic factors, and other risk factors included under the caption “Risk Factors” starting on page 7 of this prospectus.

You should read the matters described in “Risk Factors” and the other cautionary statements made in this prospectus as being applicable to all related forward-looking statements wherever they appear in this prospectus. We cannot assure you that the forward-looking statements in this prospectus will prove to be accurate and therefore prospective investors are encouraged not to place undue reliance on forward-looking statements. You should read this prospectus completely. Other than as required by law, we undertake no obligation to update or revise these forward-looking statements, even though our situation may change in the future.

We caution investors not to place undue reliance on any forward-looking statement that speaks only as of the date made and to recognize that forward-looking statements are predictions of future results, which may not occur as anticipated. Actual results could differ materially from those anticipated in the forward-looking statements and from historical results, due to the risks and uncertainties described under the caption “Risk Factors” of this prospectus, as well as others that we may consider immaterial or do not anticipate at this time. 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 we believe that the expectations reflected in our forward-looking statements are reasonable, we do not know whether our expectations will prove correct. Our expectations reflected in our forward-looking statements can be affected by inaccurate assumptions that we might make or by known or unknown risks and uncertainties, including those described in the section titled “Risk Factors” of this prospectus. The risks and uncertainties described in that section are not exclusive and further information concerning us and our business, including factors that potentially could materially affect our financial results or condition, may emerge from time to time. We assume no obligation to update forward-looking statements to reflect actual results or changes in factors or assumptions affecting such forward-looking statements. We advise investors to consult any further disclosures we may make on related subjects in our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K that we file with or furnish to the SEC.

USE OF PROCEEDS

We will not receive any proceeds from the sale of shares of our Common Stock by the Selling Stockholder. However, we will receive proceeds from the sale of shares of our Common Stock pursuant to our exercise of the put right under the Purchase Agreement.

Although the Purchase Agreement between the Company and the Selling Stockholder provides for an equity line of up to \$2,000,000 of gross proceeds to the Company upon exercise of its put right, this registration statement registers the resale by the Selling Stockholder of only 115,000,000 shares of Common Stock. Assuming a price of \$0.0039797, which is 85% of the lowest VWAP during the five-day period from October 1, 2020 to October 7, 2020 and sale of all of the 115,000,000 shares that would then be resold in this Offering, and taking into consideration the Company's estimated expenses, the Company would achieve gross proceeds of approximately \$450,000 and net proceeds of approximately \$300,000. In order to make full use of the equity line, the Company expects it will need to file subsequent resale registration statements before it will be permitted to exercise in full its put right under the Purchase Agreement.

If available, the Company intends to use the estimated net proceeds to it from exercise of its put right related to the 115,000,000 shares registered hereby on the following:

1. To manufacture, on a pilot scale, one or more new proprietary formulations of dronabinol with the enhanced properties described in our patent applications, for which we would spend approximately \$150,000 to bench test *in vitro* several versions of dronabinol formulations in order to determine those with the best physico-chemical properties.
2. To initiate clinical testing of our AMPAKines in the treatment of SCI, approximately \$145,000 would be utilized to assess the purity of our existing drug supplies and finalize a clinical trial protocol for a Phase 2A clinical trial to determine the safety and pharmacokinetic properties of one of our lead AMPAKines in patients who have had SCI. These tasks are critical for applying to the FDA for permission to amend our existing IND or initiate a new IND enabling the commencement of clinical trials.
3. Any remaining balance of the net proceeds after investing in 1 and 2 above would be for general corporate purposes and partial settlement of outstanding liabilities.

We will pay for expenses of this offering, except that the Selling Stockholder will pay any broker discounts or commissions or equivalent expenses and expenses of their legal counsel applicable to the sale of their shares.

The full execution of the Company's business plan is dependent on adequate funds being available, which will require additional third party financings, the success of which cannot be assured. See sections titled "The Business of the Company" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this prospectus for more information on the Company's business plan.

DILUTION

If you purchase shares in this offering your interest will be diluted immediately to the extent of the difference between the public offering price per share you will pay in this offering and the adjusted net tangible book value per share of our Common Stock immediately following this offering.

Net tangible book value per share is determined by dividing our total tangible assets less total tangible liabilities (excluding goodwill and other intangibles) by the number of shares of Common Stock outstanding as of the measurement date. The Company had no intangible assets as of the measurement date.

Our negative net tangible book value as of June 30, 2020 was \$7,846,748, and the number of issued and outstanding shares of Common Stock as of June 30, 2020 was 222,307,381 which excludes, as of such date:

- 4,188,630 shares of Common Stock issuable upon the exercise of our outstanding stock options, with a weighted average exercise price of \$3.3031 per share;
- 54,490,578 shares of Common Stock reserved and available for future issuances under our equity plans;
- 124,514,653 shares of Common Stock issuable upon exercise of our outstanding stock purchase warrants, with a weighted average exercise price of \$0.03272 per share;
- 55,578,272 shares of Common Stock issuable upon conversion of our outstanding convertible promissory notes; and
- 11 shares of Common Stock issuable upon conversion of our outstanding convertible preferred stock, and 6,497 shares identified as Pier Contingent Shares, at a conversion price of \$2,208.375 per share.

Using our negative tangible book value as of June 30, 2020 and the number of issued and outstanding shares of Common Stock as of June 30, 2020 (subject to the exclusions described above), our negative net tangible book value per share would be \$0.019340.

Dilution per share to new investors represents the difference between the public offering price per share paid by investors in this offering and the adjusted net tangible book value per share of Common Stock immediately after giving effect to this offering.

Our adjusted negative net tangible book value is our negative net tangible book value after giving further effect to the sale of 115,000,000 shares of our Common Stock in this offering by the Selling Stockholder at the assumed public offering price of \$0.005 per share, which was the closing price of the Company’s Common Stock on October 7, 2020, as reported by the OTCQB, and after deducting estimated offering expenses payable by us.

The following table illustrates this per share dilution to investors participating in this offering:

Assumed public offering price per share	\$	0.005
Net tangible book value per share as of June 30, 2020, before giving effect to the offering	\$	(0.035297)
Increase in net tangible book value per share from new investors participating in this offering	\$	307,666
Adjusted net tangible book value per share as of June 30, 2020 after giving effect to the offering	\$	(0.022351)
Dilution in net tangible book value per share to investors participating in this offering	\$	0.027351

Because a material change in the number of issued and outstanding shares of Common Stock occurred since June 30, 2020, below is also a calculation of dilution using our negative net tangible book value as of June 30, 2020, which was approximately \$7,846,748, and the number of issued and outstanding shares of Common Stock as of September 30, 2020, which was 577,842,003 and which excludes, as of such date:

- 71,660,938 shares of Common Stock issuable upon the exercise of our outstanding stock options, with a weighted average exercise price of \$0.19695 per share;
- 87,033,715 shares of Common Stock reserved and available for future issuances under our equity plans;
- 288,093,580 shares of Common Stock issuable upon exercise of our outstanding stock purchase warrants, with a weighted average exercise price of \$0.01474 per share;
- 47,239,857 shares of Common Stock issuable upon conversion of our outstanding convertible promissory notes, with a weighted average conversion price of \$0.01052 per share; and
- 11 shares of Common Stock issuable upon conversion of our outstanding convertible preferred stock, and 6,497 shares identified as Pier Contingent Shares, at a conversion price of \$2,208.375 per share.

Assumed public offering price per share	\$	0.005
Net tangible book value per share as of June 30, 2020, before giving effect to the offering, assuming the number of shares Common Stock outstanding at September 30, 2020	\$	(0.013579)
Increase in net tangible book value per share from new investors participating in this offering	\$	307,666
Adjusted net tangible book value per share as of June 30, 2020 after giving effect to the offering	\$	(0.010881)
Dilution in net tangible book value per share to investors participating in this offering, assuming the number of shares Common Stock outstanding at September 30, 2020	\$	0.015881

The information discussed above is illustrative only, and the dilution information following this offering will be adjusted based on the actual public offering price and other terms of this offering determined at pricing. The lower our stock price is at the time we exercise our put right under the Purchase Agreement, the more shares of our Common Stock we will have to issue to the Selling Stockholder to draw down pursuant to the Purchase Agreement. If our stock price decreases during the pricing period, then our existing stockholders will experience further dilution. Further, the above illustration assumes no exercise of outstanding options to purchase our common stock or warrants to purchase shares of our common stock or conversion of outstanding promissory notes or outstanding shares of preferred stock that will be outstanding after this offering. The exercise of outstanding options and warrants and the conversion of outstanding promissory notes and shares of preferred stock that will be outstanding after this offering having an exercise price or conversion price, as applicable, less than the offering price will increase dilution to the new investors.

MARKET FOR COMMON EQUITY AND DIVIDEND POLICY

Market Information, Holders, and Dividends

Our Common Stock is quoted on the OTCQB under the symbol “RSPI”. The quotations on the OTCQB reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not necessarily represent actual transactions.

As of September 30, 2020, there were 118 stockholders of record of our Common Stock. On October 23, 2020, the high and low sales prices as quoted on the OTCQB market were \$0.0052 and \$0.0042 respectively, and 10,488,050 shares of Common Stock were traded on that day.

During the fiscal year ended December 31, 2019 through the date of this filing, we did not repurchase any of our securities.

We have never declared or paid cash dividends on our Common Stock and do not anticipate paying such dividends in the foreseeable future. Following the completion of this offering, we intend to retain our future earnings, if any, to finance the further development and expansion of our business and do not expect to pay cash dividends in the foreseeable future. Payment of future cash dividends, if any, will be at the discretion of our Board after taking into account various factors, including our financial condition, operating results, current and anticipated cash needs, outstanding indebtedness, plans for expansion, restrictions imposed by lenders or by other financing arrangements, if any, and the limitations on payment of dividends under the Delaware General Corporation Law.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table sets forth information regarding outstanding options, warrants and rights and shares reserved for future issuance under our existing equity compensation plans as of September 30, 2020. In March 2014, the Company’s stockholders approved, by written consent, the Cortex Pharmaceuticals, Inc. 2014 Equity, Equity-Linked and Equity Derivative Incentive Plan (“2014 Plan”), filed as exhibit 10.2 to the Company’s Current Report on Form 8-K filed March 24, 2014, which provides for the issuance of shares of Common Stock, in the form of stock grants and options to directors, officers, employees, consultants and other service providers of the Company. On June 30, 2015, the Board adopted the 2015 Stock and Stock Option Plan (the “2015 Plan”), filed as exhibit 10.1 to the Company’s Current Report on Form 8-K filed July 8, 2015, which similarly provides for the issuance of equity and equity derivative securities such as options.

The Company amended the 2015 Plan on March 31, 2016, January 17, 2017, December 9, 2017, December 28, 2018, May 5, 2020, and July 31, 2020 and filed descriptions of such amendments on the Company’s Current Reports on Form 8-K on April 6, 2016, January 23, 2017, December 14, 2017, January 4, 2019, May 6, 2020, and August 3, 2020, respectively. The amendments discussed above primarily increased the number of shares of Common Stock authorized to be issued under the 2015 Plan as approved by the Board, with the latest amendment expanding the number of shares of Common Stock authorized to be issued under the 2015 plan to 158,985,260 shares. The Company has not presented, nor does it intend to present, the 2015 Plan, as amended, to shareholders for approval.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plan approved by security holders (i)	15,635	\$ 6.40300	63,245
Equity compensation plan not approved by security holders (including non-plan options) and other options granted not subject to any plans (ii)	71,645,303	\$ 0.19560	87,033,715
Total	71,660,938	\$ 0.19695	87,096,960

- (i)

Under the equity compensation plan approved by security holders, (A) 199,988 shares of restricted stock have been issued, (B) 29,623 of incentive stock options have been granted of which 13,988 have expired unexercised, leaving 15,635 granted and available for exercise and (C) 32,169 non-qualified stock options have been granted, all of which have expired. 63,245 shares of Common Stock remain available for issuance under this equity compensation plan.
- (ii)

Under the equity compensation plan not approved by security holders 71,623,559 securities are issuable upon exercise of outstanding options. An additional 21,744 securities are issuable upon the exercise of options that are not the subject of any plan. 87,033,715 securities are issuable under the equity compensation plan not approved by security holders.

THE OFFERING

On July 28, 2020, we entered into the Purchase Agreement, pursuant to which the Selling Stockholder committed to purchase, upon exercise of the Company's "put" option thereunder, an aggregate of up to \$2,000,000 of our Common Stock over a period of time expiring on June 30, 2021, unless earlier terminated by the Selling Stockholder's purchase of all shares of Common Stock allotted under the Purchase Agreement or the termination of the Purchase Agreement. From time to time during that period commencing from the effectiveness of this registration statement, we may deliver a purchase notice to the Selling Stockholder which states the number of shares of Common Stock that we intend to sell to the Selling Stockholder on a date pursuant to the Purchase Agreement. The number of shares per purchase notice must be no more than 250% of the average daily trading volume of our Common Stock for the five consecutive trading days immediately prior to date of the applicable purchase notice, and the purchase notice must be for more than \$25,000 unless waived by the Selling Stockholder. No later than the second trading day following the delivery of the purchase notice, the Selling Stockholder must deposit into escrow 150% of the closing price of the Common Stock on the date the purchase notice is delivered multiplied by the number of shares listed in the purchase notice. No later than the second trading day following the deposit, the Company must deliver the shares of Common Stock to the Selling Stockholder. Five trading days after the full trading day that the Selling Stockholder holds the purchased shares in its brokerage account and is eligible to trade the shares (the "Closing Date"), the purchase price, minus any fees and expenses owing to the escrow agent, must be released from escrow to the Company with the remainder to the Selling Stockholder. The purchase price per share to be paid by the Selling Stockholder is equal to 85% of the lowest daily volume weighted average price of Common Stock for the five trading days prior to the Closing Date. The Purchase Agreement is not transferable and any benefits attached thereto may not be assigned. If at any time the Company elects to deliver a purchase notice to the Selling Stockholder, we will be contractually obligated to issue the number of shares to which such purchase notice relates, regardless of the purchase price determined by the formula in the Purchase Agreement; provided, that no shares will be issued at a price below par value.

In connection with the Purchase Agreement, we entered into a registration rights agreement with the Selling Stockholder, pursuant to which we agreed to use our best efforts to, within 30 trading days of execution of the Purchase Agreement, file with the SEC this registration statement, covering the shares of our Common Stock issued or that the Company is entitled to issue pursuant to purchase notices delivered under the Purchase Agreement, so as to permit the resale of such shares by the Selling Stockholder.

At an assumed purchase price under the Purchase Agreement of \$0.0039797 (equal to 85% of 0.004682, the lowest volume weighted average price during the five trading days ending on October 7, 2020, as reported on the OTCQB), the 115,000,000 shares being offered pursuant to this prospectus represent approximately 23% of the shares issuable pursuant to the Company's put right under the Purchase Agreement at the same assumed purchase price. Assuming the sale of all 115,000,000 shares being registered hereby at that purchase price, we would receive \$457,666 in gross proceeds from the issuance and sale of such shares to the Selling Stockholder. At that purchase price, we would be required to register for resale 387,550,318 additional shares to obtain \$1,542,334, the balance of the \$2,000,000 maximum commitment under the Purchase Agreement. Due to the floating offering price, we are not able to determine the exact number of shares issuable under the Purchase Agreement. If our stock price were to increase, we would be able to issue a lesser number of shares and if our stock price were to decrease, we would need to issue a greater number of shares .. To the extent necessary to exercise our "put" option under the Purchase Agreement, we may file additional registration statements relating to additional shares issuable to the Selling Stockholder under the Purchase Agreement.

The aggregate maximum investment amount of \$2,000,000 was determined based on numerous factors, including its intended use for general corporate and working capital purposes or for other purposes that our Board in its good faith deem to be in the best interest of the Company.

We intend to periodically sell to the Selling Stockholder our Common Stock under the Purchase Agreement and we believe that it is the intent of the Selling Stockholder, in turn, to sell such shares to investors in the market at the market price. This may cause our stock price to decline, which will require us to subsequently issue increasing numbers of shares of Common Stock to the Selling Stockholder to raise the same amount of funds we would have raised if our stock price did not decline. We are not obligated to exercise our option to sell additional shares to the Selling Stockholder, but it is currently our intent to do so. If our stock price declines to a level at which we are no longer willing to sell shares to the Selling Stockholder, we may not exercise our option to sell such shares until our stock price and/or trading volume increases. We may have to increase the number of our authorized shares in order to issue the shares to the Selling Stockholder if we reach the limit of our current amount of authorized shares of Common Stock, and such increase would require Board and stockholder approval.

On October 16, 2020, the Board authorized and recommended that the holders of Common Stock approve (i) a ten-to-one (10:1) reverse stock split of all of the outstanding Common Stock and (ii) an increase in the number of authorized shares of Common Stock from 1,000,000,000 (one billion) to 2,000,000,000 (two billion). On October 20, 2020, the Company filed a preliminary proxy statement on Schedule 14A for a special meeting of stockholders to be held on November 24, 2020 to approve these matters.

Further, because our ability to draw down any amounts under the Purchase Agreement is subject to a number of conditions, there is no guarantee that we will be able to draw down any portion or all of the proceeds of the \$2,000,000 commitment under the Purchase Agreement. Accordingly, investors may be exposed to risks that include dilution of stockholders' percentage ownership, significant decline in our stock price and our inability to draw sufficient funds when needed. See "Risk Factors" beginning on page 7 in this registration statement for more information.

SELLING STOCKHOLDER

This prospectus relates to the resale of up to 115,000,000 shares of Common Stock, issuable to the Selling Stockholder, pursuant to our put right under the Purchase Agreement. The Purchase Agreement permits us to put an aggregate of up to \$2,000,000 in shares of Common Stock to the Selling Stockholder over a period of time expiring on June 30, 2021, unless earlier terminated by the Selling Stockholder's purchase of all shares of Common Stock issuable under the Purchase Agreement or the termination of the Purchase Agreement. The Selling Stockholder may offer and sell, from time to time, any or all of shares of our Common Stock to be put to this stockholder under the Purchase Agreement.

As of September 30, 2020, the Selling Stockholder does not beneficially own any shares of Common Stock and, following the completion of the offering, assuming that the Selling Stockholder will sell all of its shares of our Common Stock being offered in the offering, the Selling Stockholder will not beneficially own any shares of Common Stock. The Selling Stockholder may offer and sell all or only some portion of the 115,000,000 shares of our Common Stock being offered pursuant to this prospectus.

In connection with the Purchase Agreement, the Company issued to the Selling Stockholder a convertible note with a face amount of \$25,000, which becomes convertible into shares of Common Stock in January 2021 at a per share conversion price equal to \$0.02.

The Selling Stockholder has not had any position or office, or other material relationship with us or any of our affiliates over the past three years. To our knowledge, the Selling Stockholder is not a broker-dealer or an affiliate of a broker-dealer. We may require the Selling Stockholder to suspend sales of the shares of our Common Stock being offered pursuant to this prospectus upon the occurrence of any event that makes any statement in this prospectus or the related registration statement untrue in any material respect or that requires the changing of statements in these documents in order to make statements in these documents not misleading.

Yash Thukral has the voting and dispositive power over securities owned by the Selling Stockholder.

PLAN OF DISTRIBUTION

This prospectus relates to the resale of 115,000,000 shares of our Common Stock issuable to the Selling Stockholder upon exercise of the Company's "put" option under the Purchase Agreement. The Purchase Agreement permits us to issue, from time to time, purchase notices for an aggregate of up to \$2,000,000 in shares of our Common Stock to the Selling Stockholder over a period of time expiring on June 30, 2021, unless earlier terminated by the Selling Stockholder's purchase of all shares of Common Stock allotted under the Purchase Agreement or the termination of the Purchase Agreement. The purchase price per share to be paid by the Selling Stockholder is equal to 85% of the lowest daily volume weighted average price of Common Stock for the five consecutive trading days prior to the date that the Selling Stockholder purchases and pays for such shares. The Purchase Agreement is not transferable. Under the Purchase Agreement, the Company indemnifies the Selling Stockholder from and against any damages or actions to which the Selling Stockholder becomes subject resulting from, among other causes of action, any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any state securities law or any rule or regulation thereunder, as such damages are incurred, except to the extent such damages result primarily from the Selling Stockholder's breach of the Purchase Agreement or the Selling Stockholder's negligence, recklessness or bad faith in performing its obligations under the Purchase Agreement.

At the assumed purchase price of \$0.0039797 (equal to 85% of 0.004682, the lowest volume weighted average price during the five trading days ending on October 7, 2020, as reported on the OTCQB) and assuming the sale of all 115,000,000 shares being registered hereby, we would receive \$457,666 in gross proceeds from the issuance and sale of such shares to the Selling Stockholder. At that same assumed purchase price, we would be required to register 387,550,318 additional shares to obtain \$1,542,334, the balance of the \$2,000,000 commitment amount under the Purchase Agreement. Due to the floating offering price under the Purchase Agreement, we are not able to determine the exact number of shares issuable thereunder. If our stock price were to increase, we would be able to issue a lesser number of shares and if our stock price were to decrease, we would need to issue a greater number of shares.

The Selling Stockholder may, from time to time, sell any or all of shares of our Common Stock covered hereby on the OTCQB, any stock exchange, market or trading facility on which the shares are traded or in private transactions, and may do so at fixed prices, at prevailing market prices at the time of sale, at varying prices or at negotiated prices. The Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- block trades in which a broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- transactions through broker-dealers that agree with the selling stockholder to sell a specified number of such securities at a stipulated price per security;
- the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholder may also sell securities under Rule 144 under the Securities Act, if available, rather than under this prospectus. The Selling Stockholder has indicated that it does not intend to engage in passive market making transactions permitted under Rule 103 of Regulation M.

Broker-dealers engaged by the Selling Stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholder (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440, and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the securities or interests therein, the Selling Stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholder may also sell securities short and deliver these securities to close out its short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or may create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

We intend to periodically sell to the Selling Stockholder our Common Stock under the Purchase Agreement and we believe that it is the intent of the Selling Stockholder, in turn, to sell such shares to investors in the market at the market price. This may cause our stock price to decline, which will require us to subsequently issue increasing numbers of shares of Common Stock to the Selling Stockholder to raise the same amount of funds we would have raised if our stock price did not decline. We are not obligated to exercise our option to sell additional shares to the Selling Stockholder, but it is currently our intent to do so. If our stock price declines to a level at which we are no longer willing to sell shares to the Selling Stockholder, we may not exercise our option to sell such shares until our stock price and/or trading volume increases. We may have to increase the number of our authorized shares in order to issue the shares to the Selling Stockholder if we reach the limit of our current amount of authorized shares of Common Stock. Increasing the number of our authorized shares will require Board and stockholder approval.

On October 16, 2020, the Board authorized and recommended that the holders of Common Stock approve (i) a ten-to-one (10:1) reverse stock split of all of the outstanding Common Stock and (ii) an increase in the number of authorized shares of Common Stock from 1,000,000,000 (one billion) to 2,000,000,000 (two billion). On October 20, 2020, the Company filed a preliminary proxy statement on Schedule 14A for a special meeting of stockholders to be held on November 24, 2020 to approve these matters.

The Selling Stockholder is an underwriter within the meaning of the Securities Act of 1933 and any broker-dealers or agents that are involved in selling the shares may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such

sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. We are required to pay certain fees and expenses incurred by us incident to the registration of the securities.

The Selling Stockholder will be subject to the prospectus delivery requirements of the Securities Act, including Rule 172 thereunder.

The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the Common Stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholder will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of securities of the Common Stock by the Selling Stockholder or any other person. We will make copies of this prospectus available to the Selling Stockholder and will inform it of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

DESCRIPTION OF SECURITIES

The following is a general description of the Common Stock of the Company and does not purport to be complete. For a complete description of the terms and provisions of the Common Stock, refer to our Certificate of Incorporation and Bylaws. This summary is qualified in its entirety by reference to these documents.

Authorized and Outstanding Capital Stock

The Company is authorized to issue a total of 1,005,000,000 shares of capital stock, with a par value of \$0.001 per share. Of the authorized amount, 1,000,000,000 of the shares are designated as Common Stock and 5,000,000 of the shares are designated as preferred stock. The Board has authorized an increase in authorized share capital to 2,000,000,000 shares of capital stock, subject to stockholder approval. The Company's Common Stock is registered under Section 12(g) of the Exchange Act. No other security of the Company is registered under Section 12 of the Exchange Act.

As of September 30, 2020, there were 577,842,003 shares of Common Stock issued and outstanding, approximately 351,808,801 of which were held by non-affiliates of the Company.

Common Stock

General. Each share of the Company's Common Stock has the same rights and privileges. Holders of the Common Stock do not have any preferences or any preemptive, redemption, subscription, conversion or exchange rights. All outstanding shares of Common Stock are fully paid and non-assessable. The Company's Common Stock is quoted on the OTCQB under the symbol "RSPI."

Voting Rights. The holders of Common Stock are entitled to vote upon all matters submitted to a vote of stockholders and are entitled to one vote for each share of Common Stock held. There is no cumulative voting.

Dividends. The Company has never paid cash dividends on its Common Stock and does not anticipate paying such dividends in the foreseeable future. The payment of dividends, if any, will be determined by the Board in light of conditions then existing and may be paid on the Common Stock subject to the prior rights and preferences, if any, applicable to shares of preferred stock or any series of preferred stock, when and if declared by the Board, out of funds legally available therefor.

Liquidation and Distribution. If the Company voluntarily or involuntarily liquidates, dissolves or winds-up, or upon any distribution of assets, the holders of Common Stock will be entitled to receive, after distribution in full of the preferential amounts, if any, to be distributed to the holders of preferred stock or any series of preferred stock, all of the remaining assets available for distribution equally and ratably in proportion to the number of shares of Common Stock held by them.

Material Limitation or Qualification of Rights of Common Stock

Preferred Stock, Generally. The Company may issue preferred stock with such powers, preferences, rights, qualifications, limitations, and restrictions as the Board may, without prior stockholder approval, establish. The existence, and potential future issuance, of shares of preferred stock by the Company could result in substantial dilution of the economic and governance rights of holders of Common Stock.

As of September 30, 2020, the Company's authorized shares of preferred stock are designated into series as follows: 3,000 shares are designated Series H 2% Voting, Non-Participating, Convertible Preferred Stock ("Series H Preferred Stock"); 37,500 shares are designated Series B Convertible Preferred Stock ("Series B Preferred Stock"); 1,700 shares are designated Series G 1.5% Convertible Preferred Stock ("Series G Preferred Stock"); 1,250,000 shares are designated 9% Cumulative Convertible Preferred Stock ("9% Preferred Stock"); 205,000 shares are designated Series A Junior Participating Preferred Stock ("Series A Preferred Stock"); and 3,504,600 shares are undesignated and may be issued with such rights and powers as the Board may designate.

Series H Preferred Stock. As of September 30, 2020, there were no shares of Series H Preferred Stock are issued and outstanding or accrued as dividends as all outstanding shares of Series H Preferred Stock inclusive of accrued dividends converted into units that resulted in the issuance of 253,774,260 shares of Common Stock and warrants to purchase 253,774,260 shares of Common Stock. Each share of Series H Preferred Stock is convertible into 156,250 units at an effective conversion price of \$0.0064 per unit, with each unit comprising one share of Common Stock and one warrant exercisable for one share of Common Stock. Each share of Series H Preferred Stock entitles the holder to that number of votes equal to two times the number of shares of Common Stock into which it is convertible. In the event of any liquidation or winding up of the Company prior to and in preference to any junior securities, the holders of the Series H Preferred Stock will be entitled to receive in preference to the holders of any junior securities a per share amount equal to the \$0.001, plus any accrued and unpaid dividends.

Series B Preferred Stock. As of September 30, 2020, 37,500 shares of Series B Preferred Stock are issued and outstanding. 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 September 30, 2020, the shares of Series B Preferred Stock outstanding are convertible into 11 shares of Common Stock. Shares of Series B Preferred Stock do not entitle the holder to voting rights. The Company may redeem the Series B Preferred Stock for \$25,001, equivalent to \$0.6667 per share, an amount equal to the liquidation preference, at any time upon 30 days prior notice.

Series G Preferred Stock. As of September 30, 2020, no shares of Series G Preferred Stock are issued and outstanding. If issued, each share of Series G Preferred Stock would be convertible into that number of shares of Common Stock determined by dividing \$1,000 by an initial conversion price of \$0.0033. The conversion price with respect to a share of Series G Preferred Stock is subject to adjustment upon certain events that occur while such share is outstanding, pursuant to Section 7 of the Certificate of Designation for the Series G Preferred Stock. As of September 30, 2020, the conversion price with respect to Series G Preferred Stock is not subject to adjustment because no shares of Series G Preferred Stock are outstanding. If issued, each outstanding share of Series G Preferred Stock, prior to the date such share is eligible for conversion, entitles the holder to 303,030 votes per share (which may be subject to adjustment as described above), and thereafter, each share entitles the holder to voting rights on an as-converted basis.

9% Preferred Stock. As of September 30, 2020, no shares of 9% Preferred Stock are issued and outstanding. If issued, each share of 9% Preferred Stock is convertible into shares of Common Stock according to a conversion rate subject to adjustment upon the occurrence of certain events, including a reverse stock split, as set forth under our Certificate of Incorporation. Thereunder, each share of 9% Preferred Stock is convertible into that number of shares of Common Stock determined by \$325.00 (\$1.00 before adjustment for the reverse stock split) by a conversion rate of \$487.50 (\$1.50 before adjustment for the reverse stock split), which is after adjustment for the reverse stock split effected by the Company on September 1, 2016, whereby each 325 shares of Common Stock was exchanged and combined into one share of Common Stock. Shares of 9% Preferred Stock do not entitle the holder to voting rights.

Series A Preferred Stock. As of September 30, 2020, no shares of Series A Preferred Stock are issued and outstanding. Shares of Series A Preferred Stock do not entitle the holder to voting rights, except to the extent the holder would be entitled to vote with the holders of Common Stock as set forth in the Certificate of Designation for the Series A Preferred Stock.

Contemplated Corporate Actions. The Company is seeking to amend its Certificate of Incorporation to increase the number of its authorized shares of Common Stock and to effect a reverse split of its shares of Common Stock. See the section titled “Prospectus Summary—Recent Developments” for more information on these contemplated corporate actions. In addition, the Company intends to form two subsidiaries, ResolutionRx and EndeavourRx, the former to develop the cannabinoid platform and the latter to develop the neuromodulator platform, as more fully described in the section “Prospectus Summary – Business Overview as well as in the section that follows entitled THE BUSINESS OF THE COMPANY.

Anti-Takeover Provisions in the Certificate of Incorporation and Bylaws

Certain provisions of our Certificate of Incorporation and Bylaws summarized below may delay, defer or prevent a tender offer or takeover attempt, including attempts that might result in a premium over the market price for the Company’s securities.

Our Certificate of Incorporation and Bylaws provide that: (i) the Company may issue preferred stock with such powers, preferences, rights, qualifications, limitations, and restrictions as the Board may, without prior stockholder approval, establish, as described above; and (ii) special meetings of stockholders may only be called by the chairman of the Board, the president, the secretary, a majority of the members of the Board or the holders of a majority of the shares of Common Stock then outstanding.

LEGAL MATTERS

The validity of the shares of Common Stock offered hereby will be passed upon for us by Faegre Drinker Biddle & Reath LLP.

As of September 30, 2020, Faegre Drinker Biddle & Reath LLP owns stock options of the Company exercisable at \$3.90 per share of Common Stock until January 17, 2022 for 10,000 shares of Common Stock which, as of September 30, 2020, have an aggregate value of \$54.

EXPERTS

The consolidated financial statements of the Company as of December 31, 2019 and December 31, 2018, included in this prospectus, were audited by Haskell & White LLP, an independent registered public accounting firm, to the extent and for the periods set forth in their report appearing elsewhere herein (which expressed an unqualified opinion and includes an explanatory paragraph expressing substantial doubt about the Company's ability to continue as a going concern). The condensed consolidated financial statements as of interim dates are unaudited. Our consolidated financial statements are included in reliance on Haskell & White LLP's report, given on the authority of said firm as experts in accounting and auditing.

THE BUSINESS OF THE COMPANY

Description of Business

Overview

The Company 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. In August 2012, the Company acquired Pier Pharmaceuticals, Inc. (“Pier”), which is now a wholly owned subsidiary. Pier was a clinical stage biopharmaceutical company developing a pharmacologic treatment for obstructive sleep apnea (“OSA”) and had been engaged in research and clinical development activities. On December 16, 2015, the Company changed its name to RespireRx Pharmaceuticals Inc.

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 affecting millions of people, but for which there are few or poor treatment options, including OSA, attention deficit hyperactivity disorder (“ADHD”), epilepsy, chronic pain and recovery from spinal cord injury (“SCI”). The Company is developing a pipeline of new drug products based on our broad patent portfolios for two drug platforms: (i) pharmaceutical cannabinoids, which include dronabinol, a synthetic form of Δ^9 -tetrahydrocannabinol (“THC”) that acts upon the nervous system’s endogenous cannabinoid receptors and (ii) neuromodulators, which include ampakines and GABA_A agonists, proprietary compounds that, as positive allosteric modulators (“PAMs”), positively modulate AMPA-type glutamate receptors and GABA_A receptors, respectively. At this time, due to insufficient funding, we do not have any active clinical trials and our development operations are limited to planning activities.

The Company is also engaged in a number of business development efforts (licensing/sub-licensing, joint venture and other commercial structures) with a view to securing strategic partnerships that represent strategic and operational infrastructure additions, as well as cash and in-kind funding opportunities. These efforts have focused on, but have not been limited to, transacting with brand and generic pharmaceutical and biopharmaceutical companies as well as companies with potentially useful formulation or manufacturing capabilities, significant subject matter expertise and financial resources. No assurance can be given that any transaction will come to fruition and that if it does, that the terms will be favorable to the Company.

Product Development Plans

In order to facilitate our business activities and product development, we are organizing our drug platforms into two separate business units. The business unit focused on pharmaceutical cannabinoids is named ResolutionRx and the business unit focused on neuromodulators is named EndeavourRx. It is anticipated that the Company will use, at least initially, its management personnel to provide management, operational and oversight services to these two business units. Below is a description of the Company’s product development plans within these business units, and further below is background information on these business units.

ResolutionRx – Dronabinol program

For the dronabinol program within our ResolutionRx cannabinoid platform, the Company plans to manufacture, on a pilot scale, one or more new proprietary formulations of dronabinol with the enhanced properties described in our patent applications, for which we plan to spend approximately \$150,000 to bench test *in vitro* several versions of dronabinol formulations in order to determine those with the best physico-chemical properties. To finance these efforts, the Company intends to use the estimated net proceeds to it from exercise of its put right under the Purchase Agreement related to the 115,000,000 shares registered hereby. See the section titled “Use of Proceeds” of this prospectus for more information.

Assuming financing is obtained in addition to the net proceeds from the Company’s exercise of its put right under the Purchase Agreement, the Company intends to spend approximately \$450,000 to \$600,000 of these funds on the continued development of a proprietary formulation of dronabinol. This development would include (i) improvements to the Company’s intellectual property position, (ii) improvements to our dronabinol formulation’s PK profile, (iii) improvements to regulatory compliance, and (iv) expenditures for the initial stocking of clinical supply, packaging and distribution in anticipation of a Phase 2 PK/PD clinical trial and a pivotal Phase 3 clinical study. The performance of the Phase 2 PK/PD clinical trial and Phase 3 clinical study, however, would need yet additional funds either from separate financings or a collaboration with a strategic partner.

EndeavourRx – AMPAkinetics program

For the AMPAkinetics program within our EndeavourRx neuromodulators platform, the Company plans to initiate clinical testing of our AMPAkinetics in the treatment of SCI. To this end, approximately \$145,000 would be utilized to assess the purity of our existing drug supplies and finalize a clinical trial protocol for a Phase 2A clinical trial to determine the safety and pharmacokinetic (“PK”) properties of one of our lead AMPAkinetics in patients who have had SCI. These tasks are critical for applying to the FDA for permission to amend our existing IND or initiate a new IND enabling the commencement of clinical trials. To finance these efforts, the Company intends to use the estimated net proceeds to it from exercise of its put right under the Purchase Agreement related to the 115,000,000 shares registered hereby. See the section titled “Use of Proceeds” of this prospectus for more information.

Assuming financing is obtained in addition to the net proceeds from the Company’s exercise of its put right under the Purchase Agreement, the Company would continue to focus on SCI, as we believe it would be the most efficient expenditure of our resources and yield an actionable result in the shortest period of time. Expenditures would include: (i) an estimated spend of \$200,000 for chemistry, manufacturing and controls (“CMC”) efforts, depending on the assessment of our drug supplies, (ii) an estimated spend of \$400,000 on an initial Phase 2A single ascending dose safety and PK and pharmacodynamic (“PD”) study in human SCI patients, (iii) an estimated spend of \$600,000 on a Phase 2A multiple ascending dose safety and PK and PD study in SCI patients, and (iv) an estimated spend of \$650,000 on a Phase 2B efficacy study in SCI patients. Our anticipated spend for ADHD would be approximately \$100,000 with the larger spends occurring later dependent upon availability of financing.

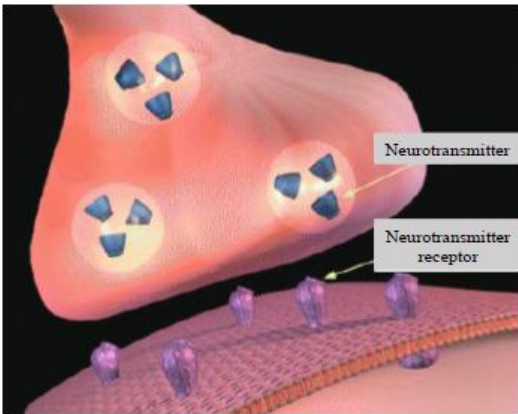
EndeavourRx – GABAkines program

Assuming financing is obtained in addition to the net proceeds from the Company’s exercise of its put right under the Purchase Agreement, the Company plans to finance efforts with respect to the GABAkines program within our EndeavourRx neuromodulators platform. These efforts would be in preparation of an IND to be submitted to the FDA to commence human studies of KRM-II-81, our lead GABAkine drug candidate, for treatment-resistant epilepsy, and expenditures would include (i) an estimated spend of \$530,000 for CMC efforts, (ii) an estimated spend of \$450,000 for pre-clinical pharmacology, safety and absorption, distribution, metabolism, excretion (“ADME”) studies, (iii) an estimated spend of \$225,000 for animal safety studies and (iv) an estimated spend of \$65,000 for regulatory consultants.

Neurotransmission

The brain is composed of specialized nerve cells called neurons that communicate information with each other via a process known as neurotransmission.

Neurotransmission



As illustrated in this figure, during neurotransmission, neurons release chemicals called neurotransmitters which attach to receptors, very specific protein structures residing on adjacent neurons. This enables neurons to communicate with one another by either increasing or decreasing the excitability of the neuron receiving the communication. For example, glutamate is the primary excitatory neurotransmitter in the brain, while gamma-amino-butyric acid (“GABA”) is the primary inhibitory neurotransmitter. Neurons also contain receptors for the brain’s own natural cannabinoid (endocannabinoid) substances.

ResolutionRx – Pharmaceutical Cannabinoids

Background

Cannabinoids are pharmacologically active substances found within the marijuana plant. Due to the liberalization of state laws regulating the use and sales of marijuana over the last 5 years, a major industry has grown around the commercialization of marijuana for both medical and recreational use. However, while personal marijuana use has been legalized in certain states, it still is not legal under federal statutes and regulations. The medical use of any pharmacological agent must be approved by the FDA and, to date, the FDA has not recognized or approved the marijuana plant as medicine nor is it federally legal to sell products that contain cannabinoids as drugs or dietary supplements without its approval.

Worldwide clinical research efforts have established the cannabinoid class of compounds as *bona fide* pharmaceutical products, or “pharmaceutical cannabinoids,” that are being developed and commercialized according to FDA regulatory and industry guidelines. Scientific research and commercial development to date has focused primarily on two major cannabinoids, THC and cannabidiol (“CBD”). This research and development began in 1985 when dronabinol, a synthetic form of THC, was approved as Marinol® by the FDA for the treatment of AIDS-related anorexia and later for the treatment of chemotherapy-induced nausea and vomiting. Dronabinol, in its Marinol® formulation as well as numerous generic formulations, is available in 2.5 mg, 5 mg, and 10 mg capsules, with a maximum labelled dosage of 20 mg/day for the AIDS indication, or 15 mg/m² per dose for chemotherapy-induced nausea and vomiting.

This initial breakthrough subsequently led to the recent FDA approval of Epidiolex®, a proprietary oral solution of highly purified, plant-derived CBD sold by GW Pharmaceuticals plc (“GW Pharma”) for the treatment of certain rare, treatment-resistant forms of epilepsy. Nabiximol®, an oromucosal spray containing THC and CBD, was approved under the tradename Sativex® by applicable regulatory authorities in 25 countries outside the United States and is sold by GW Pharma in those countries for the treatment of multiple sclerosis.

The commercialization of these pharmaceutical cannabinoids has opened the door to an expanding market sector. In order to capitalize upon this opportunity, the Company is implementing an internal restructuring plan by forming ResolutionRx as a stand-alone business focused on the pharmaceutical cannabinoid market. ResolutionRx’s initial primary focus has been and will be the re-purposing of dronabinol using new proprietary formulations and therapeutic indications. Because dronabinol already is an approved drug, we intend to use publicly available information, particularly safety data, in support of a 505(b)(2) New Drug Application (“NDA”), a much more rapid route to FDA approval than a standard 505(b)(1) NDA.

OSA and Existing Treatments

The Company is developing dronabinol for the treatment of OSA, 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 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 are believed to 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 road and rail 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. All current treatment options have serious drawbacks. We believe that a new drug therapy that is effective in reducing the medical and economic burden of OSA would have major benefits for the treatment of 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. Patients must use the device 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 hypopnea 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 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. 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 may elect to undergo surgery, the most common form of which involves the removal of excess tissue in the throat to make the airway wider. Patients who undergo surgery for the treatment of OSA risk complications. Surgery is often unsuccessful, and at present, no method exists to reliably predict therapeutic outcome from 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 implanted device stimulates the hypoglossal nerve, which controls the tongue, with every attempted breath, regardless of whether such stimulation is needed for that breath. The device is turned on at night and off in the morning by the patient with the remote.

The Company’s Rights and Research Efforts Regarding the Treatment of OSA with Cannabinoids

The poor tolerance and long-term adherence to CPAP, as well as the limitations of mechanical devices and surgery, make discovery of pharmaco-therapeutic alternatives, like cannabinoids, clinically relevant and important. In order to expand the Company’s respiratory disorders program and develop cannabinoids for the treatment of OSA, the Company acquired 100% of the issued and outstanding equity securities of Pier, now its wholly owned subsidiary, effective August 10, 2012. Through the Company’s acquisition of Pier, the Company gained access to a pre-existing relationship Pier had with the UIC. Effective June 27, 2014, the Company entered into the UIC License Agreement with UIC, which became effective when certain conditions were met in September 2014. The agreement gave the Company certain exclusive rights with respect to certain patents and patent applications in the United States and other countries claiming the use of dronabinol and other cannabinoids for the treatment of sleep-related breathing disorders, including sleep apnea.

These rights empowered the Company’s translational research on dronabinol, the results of which demonstrate that dronabinol has the potential to become the first FDA-approved drug to specifically treat this condition in this large and underserved market of OSA patients. 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. This clinical trial provided data supporting the submission of patent applications claiming unique dosage strengths and controlled release formulations optimized for use in the treatment of OSA. If approved, these pending patents would extend market exclusivity from 2025 until at least 2031.

With approximately \$5 million in funding from the National Heart, Lung and Blood Institute of the National Institutes of Health (“NIH”), Dr. David Carley of the UIC, along with his colleagues at the UIC and Northwestern University, completed a Phase 2B multi-center, double-blind, placebo-controlled clinical trial of dronabinol in patients with OSA. This study, named “Pharmacotherapy of Apnea with Cannabimimetic Enhancement” (“PACE”) replicated the results of the earlier Phase 2A study. The authors reported that, in a dose-dependent fashion, treatment with 2.5 mg and 10 mg of dronabinol once per day at night, significantly reduced, compared to placebo, AHI during sleep in the 56 evaluable patients with moderate to severe OSA who completed the study. Additionally, treatment with 10 mg of dronabinol significantly improved daytime sleepiness as measured by the Epworth Sleepiness Scale and achieved the greatest overall patient satisfaction. As in the previous Phase 2A 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 this clinical trial, which was funded entirely by the National Heart, Lung and Blood Institute of NIH.

EndeavourRx - Neuromodulators

Background

As described above, during the neurotransmission process, neurons release neurotransmitters that attach to specific receptors residing on adjacent neurons, enabling them to communicate with one another and produce excitatory or inhibitory effects. For example, glutamate is the primary excitatory neurotransmitter in the brain and GABA is the primary inhibitory neurotransmitter. While the neurotransmitter attachment site on each of these receptors does not change, the receptor protein subunit structures can vary so that the receptors can produce a variety of effects. With the AMPA glutamate receptor, the binding of glutamate or an artificial agonist to its attachment site causes a change in the structure of the AMPA receptor resulting in an increased excitability. Likewise, in the case of the GABA_A receptor, the binding of GABA or an artificial agonist to its attachment site causes a change in the structure of the GABA_A receptor ion channel and increases the flow of chloride ions (negatively charged anion) into the cell, resulting in a decreased excitability.

Neurotransmitter receptor proteins also may contain auxiliary “allosteric” binding sites, which are located adjacent to the agonist binding sites at which neurotransmitters act. Unlike neurotransmitters, neuromodulators are drugs that act at these allosteric binding sites rather than directly at the agonist binding site. They can act either as PAMs, which enhance, or as negative allosteric modulators (“NAMs”), which reduce, the actions of neurotransmitters at their primary receptor sites. Neuromodulators have no intrinsic activity of their own. We have coined the terms “ampakines” and “GABAKines” to refer to drugs that act as PAMs at the AMPA and GABA_A receptors, respectively. By enhancing the effects of neurotransmitters without altering the normal pattern of neuronal activity, neuromodulators offer the possibility of developing “kinder and gentler” neuropharmacological drugs effective in certain neurological and neuropsychiatric disorders, with greater pharmacological specificity and reduced side effects.

In order to capitalize upon a possible market opportunity with respect to neuromodulators, the Company is implementing an internal restructuring plan by forming EndeavourRx as a stand-alone business focused on the neuromodulator market. EndeavourRx will comprise our ampakine program and our GABAKine program.

AMPAkines

The Company is developing a class of proprietary compounds known as ampakines, which are PAMs of the AMPA glutamate receptor. Ampakines are small molecule compounds that enhance the excitatory actions of glutamate at the AMPA receptor complex, which mediates most excitatory transmission in the CNS. Through an extensive translational research effort from the cellular level through Phase 2 clinical trials, we have developed a family of ampakines, including CX717, CX1739 and CX1942 that may have clinical application in the treatment of CNS-driven neurobehavioral and cognitive disorders, SCI, neurological diseases, and certain orphan indications. CX717 and CX1739, our lead clinical compounds, have successfully completed multiple Phase 1 safety trials with no drug-associated serious adverse events. Both compounds have also completed Phase 2 efficacy trials demonstrating target engagement, by antagonizing the process of opioid-induced respiratory depression (“OIRD”). CX717 has successfully 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 SCI. Subject to raising sufficient financing (of which no assurance can be provided), we believe that we will be able to initiate a human Phase 2 study with CX1739 or CX717 in patients with SCI and a human Phase 2B study in patients with ADHD using either CX1739 or CX717.

AMPAkines as Treatment for ADHD

ADHD is one of the most common neurobehavioral disorders. Currently available treatments for ADHD include amphetamine-type stimulants and non-stimulant agents targeting monoaminergic neurotransmitter systems in the brain. However, these neurotransmitter systems 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 (Strattera® and its generic equivalents), can take four to eight weeks to become effective and undesirable side effects also 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 observed 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 or CX1739 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 2 clinical trial in patients with adult ADHD using one of our two lead ampakine compounds.

AMPAkines as Treatment for SCI

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. 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”), exposure to short periods of low oxygen, in patients with SCI demonstrate that neural plasticity can be induced to improve motor function. This is based on 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.

The Company has been working with Dr. David Fuller, at the University of Florida with funding from NIH, to evaluate the use of ampakines for the treatment of compromised motor function in SCI. Using mice that have received spinal hemi-sections, 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. 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 granted by NIH to Dr. Fuller, the Company is continuing its collaborative preclinical research with him 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 researchers at highly regarded clinical sites to finalize a Phase 2 clinical trial protocol. We believe that a clinical study could be initiated within several months of raising sufficient financing (of which no assurance can be provided).

The GABAKine program was recently established pursuant to the UWMRF Patent License Agreement that the Company entered into with UWMRF. At present, the program is focused on developing certain GABAKines with certain GABA_A receptor subtype selectivity. We believe that there is a considerable degree of receptor subtype heterogeneity, making subtype selectivity of our compounds a desirable attribute.

Benzodiazepines (“BDZs”), such as Valium[®] (diazepam), Librium[®] (chlordiazepoxide) and Xanax[®] (alprazolam) were the first major class of drugs reported to act as GABA_A PAMs, by binding at a site distinct from the binding site for GABA. These drugs produced a wide range of pharmacological properties, including anxiety reduction, sedation, hypnosis, anti-convulsant, muscle relaxation, respiratory depression, cognitive impairment, as well as tolerance, abuse and withdrawal. For this reason, it was not surprising that BDZs were observed to act as GABA_A PAMs indiscriminately across all GABA_A receptor subtypes. Following the identification of BDZ binding sites on GABA_A receptors, Dr. Lippa described CL218,872, the first non-BDZ to demonstrate that these receptors were heterogeneous by binding selectively to a subtype of GABA_A receptor. This demonstration of receptor heterogeneity led to the hypothesis that the various pharmacological actions of the BDZs might be separable depending on the receptor subtype involved. In animal testing, CL218,872 provided the proof of principle that such a separation could be achieved by displaying anti-anxiety and anti-convulsant properties in the absence of sedation, amnesia and muscular incoordination. These findings gave impetus to the search for novel therapeutic drugs for neurological and psychiatric illnesses that display improvements in efficacy and reductions in side effects.

Over the last several years, a group of scientists led by Dr. James Cook of the University of Wisconsin and Dr. Jeffrey Witkin affiliated with the Indiana University School of Medicine, who are advising us, have synthesized and tested a broad series of novel drugs that display GABA_A receptor subtype selectivity and pharmacological specificity.

Certain of these chemical compounds are the subject of the UWMRF Patent License Agreement. Of these compounds, we have identified KRM-II-81 as a clinical lead. KRM-II-81 is the most advanced and druggable of a series of compounds that display certain receptor subtype selective and pharmacological specificity. In studies using cell cultures, brain tissues and whole animals, KRM-II-81 acts as a GABA_A PAM at selective GABA_A receptor subtypes that we feel are intimately involved in neuronal processes underlying epilepsy, pain, anxiety and certain other indications. KRM-II-81 has demonstrated highly desirable properties in animal models of these and other potential therapeutic indications, in the absence of or with greatly reduced liability to produce sedation, motor incoordination, cognitive impairments, respiratory depression, tolerance, abuse and withdrawal seizures, all side effects associated with BDZs. We currently are focused on the potential treatment of epilepsy and pain.

Epilepsy and Existing Treatments

Epilepsy is a chronic and highly prevalent neurological disorder that affects millions of people world-wide and has serious consequences for the life of the affected individual. A first-line approach to the control of epilepsy is through the administration of anticonvulsant drugs. Repeated, uncontrolled seizures and the side effects arising from seizure medications have a negative effect on the developing brain and can lead to brain cell loss and severe impairment of neurocognitive function. The continued occurrence of seizure activity also increases the probability of subsequent epileptic events through sensitization mechanisms called seizure kindling. Seizures that are unresponsive to anti-epileptic treatments are life-disrupting and life-threatening with broad health, life, and economic consequences.

Like many diseases, epilepsy is still remarkably underserved by currently available medicines. Pharmaco-resistance to anticonvulsant therapy continues to be one of the key obstacles to the treatment of epilepsy. Although many anticonvulsant drugs are approved to decrease seizure probability, seizures frequently are not fully controlled and patients are generally maintained daily on multiple antiepileptic drugs with the hope of enhancing the probability of seizure control. Despite this polypharmacy approach, as many as 60% to 70% of patients continue to have seizures. As a result of the lack of seizure control, pharmaco-resistant epilepsy patients, including young children, sometimes require and elect to have invasive therapeutic procedures such as surgical resection.

Despite the availability of a host of marketed drugs of different mechanistic classes, the lack of seizure control in patients is the primary factor driving the need for improved antiepileptic drugs emphasized by researchers and patient advocacy communities. Increasing inhibitory tone in the CNS through enhancement of GABAergic inhibition is a proven mechanism for seizure control. However, GABAergic medications also exhibit liabilities that limit their antiepileptic potential. Tolerance develops to GABAergic drugs such as BDZs, limiting their use in a chronic setting. These drugs can produce cognitive impairment, somnolence, sedation, tolerance and withdrawal seizures that create dosing limitations such that they are generally used only for acute convulsive episodes.

GABAkinases as Treatments for Epilepsy

KRM-II-81 has demonstrated efficacy in multiple rodent models and measures of antiepileptic drug efficacy *in vivo*. This includes nine acute seizure provocation models in mice and rats, four seizure sensitization models in rats and mice, two models of chronic epilepsy, and three models specifically testing pharmaco-resistant antiepileptic drug efficacy. Because it appears to have a greatly reduced side effect liability, it might be possible to use higher, more effective doses than standard of care medications. Predictions of superior efficacy of KRM-II-81 over standard of care anti-epileptics comes from the efficacy of this compound across a broad range of animal models of epilepsy. Importantly, KRM-II-81 has been shown to be effective in models assessing pharmaco-resistant epilepsy. Under these conditions, KRM-II-81 is efficacious in cases where standard of care medicines do not work.

In the absence of seizure control by anti-epileptics, surgical resection of affected brain tissue is one potential alternative to help with the control of seizures. In the process of this surgery, epileptic brain tissue can become available for research into epileptic mechanisms and the identification of novel antiepileptic drugs. The anticonvulsant action of KRM-II-81 was confirmed by microelectrode recordings from slices obtained from freshly excised cortex from epileptic patients where KRM-II-81 suppressed epileptiform electrical activity. While preliminary, these translational data lend considerable support to the further development of KRM-II-81 for the treatment of epilepsy.

GABAkinases as Treatments for Pain

It is impossible not to be aware of the crisis that the opioid epidemic has created in the treatment of chronic pain. While there is no question as to their efficacy, the clinical use of opioids is severely limited due to the rapid development of tolerance and the production of OIRD, the major cause of opioid-induced lethality. Research programs are underway nationwide to discover and develop new non-opioid drugs that are effective analgesics without the tolerance and abuse liability ascribed to opioids. Chronic pain is especially difficult to treat due to its complex nature with a variety of different etiologies. For example, chronic pain may be produced by injury, surgery, neuropathy, the inflammation produced by arthritis or by certain drugs such as cancer chemotherapeutics. For these reasons, better management and control of chronic pain continues to be a serious need in medical practice.

Data from both preclinical and clinical studies are consistent with the idea that GABAergic neurotransmission is an important regulatory mechanism for the control of pain. gabapentin (Neurontin®) and pregabalin (Lyrica®) two commonly used drugs for the treatment of chronic pain are believed to produce their analgesic effects by enhancing GABAergic neurotransmission. However, although they have received FDA approval, the clinical results have not been overwhelming. In a published review of 37 clinical trials with a total of 5,914 patients experiencing neuropathic pain there was no difference in the percentage of patients experiencing pain reduction of greater than 50% when comparing gabapentin to placebo. The most common side effects produced by gabapentin were sedation, dizziness and problems walking. It is uncertain whether greater efficacy was not observed because of poor intrinsic pharmacological efficacy or insufficient dosages due to dose limiting side effects.

An alternate approach to enhancing GABAergic neurotransmission is the use of GABA_A PAMs. This approach has been under-utilized because of the general lack of efficacy of the BDZ PAMs. However, a strong case for the potential value of subtype selective GABA_A PAMs for the treatment of pain can be made. First, GABA_A receptor regulated pathways are integral to pain processing with $\alpha 2/3$ containing GABA_A receptor subtypes present on nerve pathways modulating pain sensation and perception. Second, we believe that the analgesic properties of BDZs may be masked by concurrent activation of other receptor subtypes that mediate the side effects. Diazepam has been reported to produce maximal analgesia if the side effects are attenuated by GABA_A subtype genetic manipulation. Third, predecessor GABAkinases, made by Dr. Cook, that selectively amplify GABA_A receptor subtype signaling are effective in pain models in rodents at doses lower than those producing motor side effects.

In a number of laboratory procedures and animal studies, KRM-II-81 has been shown to selectively bind to GABA_A receptor subtypes and enhance GABAergic neurotransmission. Sub-chronic dosing for 22 days with KRM-II-81 and the structural analogue, MP-III-80, demonstrated enduring analgesic efficacy without tolerance development. In contrast, tolerance developed to the analgesic effects of gabapentin. At a dose that produces maximal analgesic effect in an inflammatory chronic pain model, KRM-II-81 does not substitute for the BDZ midazolam in a drug discrimination assay, suggesting a reduced abuse liability. Furthermore, KRM-II-81 did not produce the respiratory depression observed with alprazolam, a major problem with BDZs leading to emergency room visits and overdose.

We believe that the ability to attenuate both acute and chronic pain combined with a greatly reduced side effect profile, a lack of tolerance and a reduced abuse potential makes KRM-II-81 a promising clinical lead and a potential advance in pain therapeutics. Results from preliminary chemistry, metabolism and pharmacokinetic studies support its further development.

Financing our Business Units

Our major challenge has been to raise substantial equity or equity-linked financing to support research and development plans for our cannabinoid and neuromodulator platforms under ResolutionRx and EndeavourRx, respectively, while minimizing the dilutive effect to pre-existing stockholders. At present, we believe that we are hindered primarily by our public corporate structure, our OTCQB listing, and low market capitalization as a result of our low stock price.

For this reason, the Company is considering an internal restructuring plan that contemplates spinning out our two drug platforms under ResolutionRx and EndeavourRx into separate operating businesses or subsidiaries. We believe that by creating one or more subsidiaries, it may be possible, through separate finance channels, to optimize the asset values of both the cannabinoid platform and the neuromodulator platform. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Development Plan for ResolutionRx” for a discussion of our proposed ResolutionRx cannabinoid platform subsidiary.

Going Concern

The Company’s condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has incurred net losses of \$1,762,855 for the six-months ended June 30, 2020 and \$2,115,033 for the fiscal year ended December 31, 2019 respectively, as well as negative operating cash flows of \$106,448 for the six-months ended June 30, 2020 and \$487,745 for the fiscal year ended December 31, 2019. The Company also had a stockholders’ deficiency of \$7,846,748 at June 30, 2020 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 audit report on the Company’s condensed consolidated financial statements for the year ended December 31, 2019, 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 no current revenue. Management is continuing to address various aspects of the Company’s operations and obligations, including, without limitation, debt obligations, financing requirements, establishment of new and maintenance and improvement of existing and in-process 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 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, 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 of our 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.

Competition

The pharmaceutical industry is characterized by intensive research efforts, rapidly advancing technologies, intense competition and a strong emphasis on proprietary therapeutics. Our competitors include many companies, research institutes and universities that are working in a number of pharmaceutical or biotechnology disciplines to develop therapeutic products similar to those we are currently investigating. Most of these competitors have substantially greater financial, technical, manufacturing, marketing, distribution and/or other resources than we do. In addition, many of our competitors have experience in performing human clinical trials of new or improved therapeutic products and obtaining approvals from the FDA and other regulatory agencies. We have no experience in conducting and managing later-stage clinical testing or in preparing applications necessary to obtain regulatory approvals. We expect that competition in this field will continue to intensify.

Regulation

The FDA and other similar agencies in foreign countries have substantial requirements for therapeutic products. Such requirements often involve lengthy and detailed laboratory, clinical and post-clinical testing procedures and are expensive to complete. It often takes companies many years to satisfy these requirements, depending on the complexity and novelty of the product. The review process is also extensive, which may delay the approval process further. Failure to comply with applicable FDA or other requirements may subject a company to a variety of administrative or judicial sanctions, such as the FDA’s refusal to approve pending applications, a clinical hold, warning letters, recall or seizure of products, partial or total suspension of production, withdrawal of the product from the market, injunctions, fines, civil penalties or criminal prosecution.

FDA approval is required before any new drug or dosage form, including the new use of a previously approved drug, can be marketed in the United States. Other similar agencies in foreign countries also impose substantial requirements.

The process of developing drug candidates normally begins with a discovery process of potential candidates that are then initially tested in in vitro and in vivo non-human animal (preclinical) studies which include, but are not limited to toxicity and other safety related studies, pharmacokinetics, pharmacodynamics and ADME (absorption, distribution, metabolism, excretion). Once sufficient preclinical data are obtained, a company must submit an IND and receive authorization from the FDA in order to begin clinical trials in the United States. Successful drug candidates then move into human studies that are characterized generally as Phase 1, Phase 2 and Phase 3. Phase 1 studies seeking safety and other data normally utilize healthy volunteers. Phase 2 studies utilize one or more prospective patient populations and are designed to establish safety and preliminary measures of efficacy. Sometimes studies may be referred to as Phase 2A and 2B depending on the size of the patient population. Phase 3 studies are large trials in the targeted patient population, performed in multiple centers, often for longer periods of time and are designed to establish statistically significant efficacy as well as safety in the larger population. Most often the FDA and similar regulatory agencies in other countries require two confirmatory Phase 3 or pivotal studies. Upon completion of both the preclinical and clinical phases, a New Drug Application (“NDA”) is filed with the FDA or a similar filing is made to the regulatory authority in other countries. NDA filings are extensive and include the data from all prior studies. These filings are reviewed by the FDA and, only if approved, may the company or its partners commence marketing of the new drug in the United States.

There also are variations of these procedures. For example, companies seeking approval for new indications for an already approved drug may choose to pursue an abbreviated approval process such as the filing for an NDA under Section 505(b)(2). Another example would be a Supplementary NDA (“SNDAs”). A third example would be an Abbreviated NDA (“ANDAs”) claiming bio-equivalence to an already approved drug and claiming the same indications such as in the case of generic drugs. Other opportunities allow for accelerated review and approval based upon several factors, including potential fast-track status for serious medical conditions and unmet medical needs, potential breakthrough therapy designation of the drug for serious conditions where preliminary evidence shows that the drug may show substantial improvement over available therapy or orphan designation (generally, an orphan indication in the United States is one with a patient population of less than 200,000).

As of yet, we have not obtained any approvals to market our products. Further, we cannot assure you that the FDA or other regulatory agency will grant us approval for any of our products on a timely basis, if at all. Even if regulatory clearances are obtained, a marketed product is subject to continual review, and later discovery of previously unknown problems may result in restrictions on marketing or withdrawal of the product from the market.

The recent COVID-19 pandemic has made it very difficult to recruit subjects and patients and to conduct clinical trials in general. Given the public health emergency during the winter and spring of 2020, the FDA issued guidance to be implemented without the normal prior public comment period as the FDA had concluded that public participation would not be feasible or appropriate. Guidance is not legally enforceable, but the FDA recommends the following of its guidance. Challenges are expected to arise from quarantines, site closures, travel limitations, interruptions to the supply chain for investigational products, or other considerations if site personnel or trial subjects become infected with COVID-19. These challenges may lead to difficulties in meeting protocol-specified procedures. The FDA emphasized that safety of trial participants is critically important. Decisions to continue or discontinue individual patients or the trial are expected to be made by trial sponsors in consultation with clinical investors and Institutional Review Boards. COVID-19 screening procedures may need to be implemented. As challenging as the clinical trial process is during normal times, the risks, strategic and operational challenges and the costs of conducting such trials has increased substantially during the pandemic. See the section titled “Risk Factors” for more information on this and other risks to the Company.

Manufacturing

We have no experience or capability to either manufacture bulk quantities of the new compounds that we develop, or to produce finished dosage forms of the compounds, such as tablets or capsules. We rely, and presently intend to continue to rely, on the manufacturing and quality control expertise of contract manufacturing organizations (see below with respect to dronabinol) or current and prospective corporate partners. There is no assurance that we will be able to enter into manufacturing arrangements to produce bulk quantities of our compounds on favorable financial terms. There is generally, absent any disruptions that may be caused by the COVID-19 pandemic, substantial availability of both bulk chemical manufacturing and dosage form manufacturing capability throughout the world that we believe we can readily access.

On September 4, 2018, the Company entered into a dronabinol Development and Supply Agreement with Noramco Inc., one of the world’s major dronabinol manufacturers. Noramco subsequently assigned this agreement (as assigned, the “Purisys Agreement”) to its subsidiary, Purisys, LLC (“Purisys”). Under the terms of the Purisys Agreement, Purisys 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 New Drug Application (“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 to purchase exclusively from Purisys during the commercialization phase all API for its Products as defined in the Purisys Agreement at a pre-determined price subject to certain producer price adjustments and agreed to Purisys’s participation in the economic success of the commercialized Products up to the earlier of the achievement of a maximum dollar amount or the expiration of a period of time.

See “Risk Factors—Risks related to our business—*We are at an early stage of development and we may not be able to successfully develop and commercialize our products and technologies*” for a discussion of certain risks related to the development and commercialization of our products.

Marketing

We have no experience in the marketing of pharmaceutical products and do not anticipate having the resources to distribute and broadly market any products that we may develop. We will therefore continue to seek commercial development arrangements with other pharmaceutical companies for our product candidates for those indications that require significant sales forces to effectively market. In entering into such arrangements, we may seek to retain the right to promote or co-promote products for certain of the orphan drug indications in North America. We believe that there is a significant expertise base for such marketing and sales functions within the pharmaceutical industry and expect that we could recruit such expertise if we choose to directly market a drug.

See “Risk Factors—Risks related to our business—*We are at an early stage of development and we may not be able to successfully develop and commercialize our products and technologies*” for a discussion of certain risks related to the marketing of our products.

Employees

As of September 30, 2020, the Company employed five people (all officers), three of whom were full time. The Company periodically engages certain contractors with domain expertise who provide services such as biostatistics, regulatory consulting and other services, to the Company.

Technology Rights

University of Illinois License Agreement

On June 27, 2014, the Company entered into the UIC License Agreement with the UIC. The UIC License Agreement granted the Company (i) exclusive rights to several issued and pending patents in several jurisdictions and (ii) the non-exclusive right to certain technical information that is generated by UIC in connection with certain clinical trials as specified in the UIC License Agreement, all of which relate to the use of cannabinoids for the treatment of sleep-related breathing disorders. As discussed above, the Company is developing dronabinol (a synthetic form of Δ^9 -THC) for the treatment of OSA, the most common form of sleep apnea.

The UIC License Agreement provides for various commercialization and reporting requirements that commenced on June 30, 2015. In addition, the UIC License Agreement provides for various royalty payments, including a royalty on net sales of 4%, payment on sublicensee 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, 2019, was extended to June 30, 2020 and further extended to July 7, 2020 when the obligation was paid. 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 in 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.

UWMRF Patent License Agreement

On August 1, 2020, the Company exercised its option pursuant to its option agreement dated March 2, 2020, between the Company and UWMRF. Upon exercise, the Company and UWMRF executed the UWMRF Patent License Agreement, effective August 1, 2020, pursuant to which the Company licensed the intellectual property identified therein, including patent rights, technology rights and improvements, on a worldwide basis.

In consideration for the licenses granted, the Company will pay to UWMRF the following: (i) patent filing and prosecution costs incurred by UWMRF prior to the effective date, which totaled \$60,370 as of January 14, 2020, paid in three yearly installments with 25% payable twelve months after the effective date, 25% payable twenty-four months after the effective date, and the remaining 50% payable thirty-six months after the effective date; (ii) annual license maintenance fees, beginning on the second anniversary of the effective date, which annual maintenance fees vary from year-to-year from the second anniversary date through the fifth anniversary date, with the amount due on the fifth anniversary being due each anniversary date thereafter until such payments terminate upon the Company's payment of royalties pursuant to clause (iv) below; (iii) one-time milestone payments, paid upon the occurrence of certain dosing events of patients during clinical trials and certain approvals by the FDA, with the first to be paid upon the dosing of the first patient in a Phase II clinical trial, the second to be paid upon the dosing of the first patient in a Phase III clinical trial, and the final milestone payment to be paid upon approval by the FDA of a NDA; and (iv) annual royalties on net sales of patented products and other products as described and defined in the UWMRF Patent License Agreement, subject to reduction due to royalty stacking provisions, and subject also to annual minimum royalties after the first commercial sale of a licensed product, which annual minimums increase in two year increments until they reach a fixed amount in year six and thereafter. The Company has also granted UWMRF stock appreciation rights providing UWMRF with the right to receive an amount equal to 4.9% of the consideration received upon the sale or assignment of one or more of the neuromodulator programs above \$1 per program. The Company must provide UWMRF with an annual development plan by September 30, 2021 and each September 30th thereafter. The UWMRF Patent License Agreement will expand the Company's neuromodulator platform, which has historically included the Company's AMPAkinine program and now includes a GABAkinine program as well. That platform, as expanded, is now called EndeavourRx.

Transactions with Bausch Health Companies

Beginning in March 2010, the Company entered into a series of asset purchase and license agreements with Biovail Laboratories International SRL, which after its merger with Valeant Pharmaceuticals International, Inc. was later renamed Bausch Health Companies Inc. ("Bausch").

In March 2011, the Company entered into a new agreement with Bausch to re-acquire the AMPAkinine compounds, patents and rights that Bausch had acquired from the Company in March 2010. The new agreement provided for potential future payments of up to \$15,150,000 by the Company based upon the achievement of certain developments, including NDA submissions and approval milestones pertaining to an intravenous dosage form of the AMPAkinine compounds for respiratory depression, a therapeutic area not currently pursued by the Company. Bausch is also eligible to receive additional payments of up to \$15,000,000 from the Company based upon the Company's net sales of an intravenous dosage form of these compounds for respiratory depression.

University of Alberta License Agreement and Research Agreement

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, after reaching that tentative Agreement, the Company re-evaluated that portion of its AMPAkinine program and has decided not to enter into a new agreement at this time. The lack of entry into a new agreement at this time does not affect the Company's other AMPAkinine programs and permits the Company to reallocate resources to those programs, including, but not limited to ADHD, SCI, FXS and CNS-driven disorders.

Research and Development Expenses

The Company invested \$308,466 in research and development in the six months ended June 30, 2020. Of that amount, \$244,800 was incurred with related parties. See our condensed consolidated financial statements for the six months ended June 30, 2020, included in this prospectus.

The Company invested \$599,329 and \$688,285 in research and development in 2019 and 2018, respectively. Of those amounts, \$490,908 and \$495,638 were incurred with related parties in 2019 and 2018, respectively. See our consolidated financial statements for the years ended December 31, 2019 and 2018, included in this prospectus.

Description of Property

As of September 30, 2020, the Company did not own any real property or maintain any leases with respect to real property. The Company periodically contracts for services provided at the facilities owned by third parties and may, from time-to-time, have employees who work in these facilities.

Legal Proceedings

By letter dated February 5, 2016, the Company received a demand from a law firm representing Salamandra, LLC (“Salamandra”) alleging \$146,082 due and owing for unpaid services rendered. On January 18, 2017, following an arbitration proceeding in the Superior Court of New Jersey, an arbitrator awarded Salamandra the full amount sought. Additionally, the arbitrator granted Salamandra’s attorneys’ fees and costs of \$47,937. All such amounts have been accrued at June 30, 2020 and December 31, 2019, including accrued interest at 4.5% annually from February 26, 2018, the date of the judgment, through June 30, 2020, totaling \$20,736.

On December 16, 2019, the Company and Salamandra entered into an amendment to the settlement agreement and release, executed August 21, 2019 (the “Original Settlement Agreement” and as amended, the “Amended Settlement Agreement”) regarding \$202,395 owed by the Company to Salamandra (as reduced by any further payments by the Company to Salamandra, the “Full Amount”) in connection with the arbitration award previously granted in favor of Salamandra. Under the terms of the Original Settlement Agreement, the Company was to pay Salamandra \$125,000 on or before November 30, 2019 in full satisfaction of the Full Amount owed, subject to conditions regarding the Company’s ability to raise certain dollar amounts of working capital. Under the Amended Settlement Agreement, (i) the Company was to pay and the Company paid to Salamandra \$25,000 on or before December 21, 2019, (ii) upon such payment, Salamandra ceased all collection efforts against the Company until March 31, 2020 (the “Threshold Date”), and (iii) the Company was to pay to Salamandra \$100,000 on or before the Threshold Date if the Company had at that time raised \$600,000 in working capital. Such payments by the Company would have constituted satisfaction of the Full Amount owed and would have served as consideration for the dismissal of the action underlying the arbitration award and the mutual releases set forth in the Amended Settlement Agreement. If the Company had raised less than \$600,000 in working capital before the Threshold Date, the Company was to pay to Salamandra an amount equal to 21% of the working capital amount raised, in which case such payment would have reduced the Full Amount owed on a dollar-for-dollar basis, and Salamandra would then have been able to seek collection on the remainder of the debt. The Company made the initial payment of \$25,000 in December 2019, but did not make the subsequent required payment on March 31, 2020, nor has any payment been made during the three-months ended June 30, 2020. The Company has initiated further discussions with the intent of reaching a revised settlement agreement which cannot be assured.

By email 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 June 30, 2020 and December 31, 2019.

On February 21, 2020, Sharp Clinical Services, Inc. (“Sharp”), a vendor of the Company, filed a complaint against the Company in the Superior Court of New Jersey Law Division, Bergen County related to a December 16, 2019 demand for payment of past due invoices inclusive of late fees totaling \$103,890 of which \$3,631 relates to late fees, seeking \$100,259 plus 1.5% interest per month on outstanding unpaid invoices. Amid settlement discussions, the vendor stated on March 13, 2020 its intent to proceed to a default judgment against the Company, and the Company stated on March 14, 2020 its intent to continue settlement discussions. On May 29, 2020, a default was entered against the Company, and on September 4, 2020, a final judgment by default was entered against the Company in the amount of \$104,217.37.

The Company is periodically the subject of various pending and threatened legal actions and claims. In the opinion of management of the Company, adequate provision has been made in the Company’s condensed consolidated financial statements as of June 30, 2020 and December 31, 2019 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.

MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

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 affecting millions of people, but for which there are few or poor treatment options, including OSA, ADHD, epilepsy, chronic pain and recovery from SCI. The Company is developing a pipeline of new drug product candidates based on our broad patent portfolios for two drug platforms: (i) pharmaceutical cannabinoids, which include dronabinol, a synthetic form of THC that acts upon the nervous system’s endogenous cannabinoid receptors and (ii) neuromodulators, which include ampakines and GABA_Akinines, proprietary compounds that, as PAMs, positively modulate AMPA-type glutamate receptors and GABA_A receptors, respectively. Due to insufficient funding, we do not currently have any active clinical trials and only limited operations.

Product Development Plans

In order to facilitate our business activities and product development, we are organizing our drug platforms into two separate business units. The business unit focused on pharmaceutical cannabinoids is named ResolutionRx and the business unit focused on neuromodulators is named EndeavourRx. It is anticipated that the Company will use, at least initially, its management personnel to provide management, operational and oversight services to these two business units. Below is a description of the Company’s product development plans within these business units. Please see the section titled “The Business of the Company” in this prospectus for background information on these business units.

ResolutionRx – Dronabinol program

For the dronabinol program within our ResolutionRx cannabinoid platform, the Company plans to manufacture, on a pilot scale, one or more new proprietary formulations of dronabinol with the enhanced properties described in our patent applications, for which we plan to spend approximately \$150,000 to bench test *in vitro* several versions of dronabinol formulations in order to determine those with the best physico-chemical properties. To finance these efforts, the Company intends to use the estimated net proceeds to it from exercise of its put right under the Purchase Agreement related to the 115,000,000 shares registered hereby. See the section titled “Use of Proceeds” of this prospectus for more information.

Assuming financing is obtained in addition to the net proceeds from the Company’s exercise of its put right under the Purchase Agreement, the Company intends to spend approximately \$450,000 to \$600,000 of these funds on the continued development of a proprietary formulation of dronabinol. This development would include (i) improvements to the Company’s intellectual property position, (ii) improvements to our dronabinol formulation’s PK profile, (iii) improvements to regulatory compliance, and (iv) expenditures for the initial stocking of clinical supply, packaging and distribution in anticipation of a Phase 2 PK/PD clinical trial and a pivotal Phase 3 clinical study. The performance of the Phase 2 PK/PD clinical trial and Phase 3 clinical study, however, would need yet additional funds either from separate financings or a collaboration with a strategic partner.

EndeavourRx – AMPAkinines program

For the AMPAkinines program within our EndeavourRx neuromodulators platform, the Company plans to initiate clinical testing of our AMPAkinines in the treatment of SCI. To this end, approximately \$145,000 would be utilized to assess the purity of our existing drug supplies and finalize a clinical trial protocol for a Phase 2A clinical trial to determine the safety and pharmacokinetic (“PK”) properties of one of our lead AMPAkinines in patients who have had SCI. These tasks are critical for applying to the FDA for permission to amend our existing IND or initiate a new IND enabling the commencement of clinical trials. To finance these efforts, the Company intends to use the estimated net proceeds to it from exercise of its put right under the Purchase Agreement related to the 115,000,000 shares registered hereby. See the section titled “Use of Proceeds” of this prospectus for more information.

Assuming financing is obtained in addition to the net proceeds from the Company’s exercise of its put right under the Purchase Agreement, the Company would continue to focus on SCI, as we believe it would be the most efficient expenditure of our resources and yield an actionable result in the shortest period of time. Expenditures would include: (i) an estimated spend of \$200,000 for chemistry, manufacturing and controls (“CMC”) efforts, depending on the assessment of our drug supplies, (ii) an estimated spend of \$400,000 on an initial Phase 2A single ascending dose safety and PK and pharmacodynamic (“PD”) study in human SCI patients, (iii) an estimated spend of \$600,000 on a Phase 2A multiple ascending dose safety and PK and PD study in SCI patients, and (iv) an estimated spend of \$650,000 on a Phase 2B efficacy study in SCI patients. Our anticipated spend for ADHD would be approximately \$100,000 with the larger spends occurring later dependent upon availability of financing.

EndeavourRx – GABAkinines program

Assuming financing is obtained in addition to the net proceeds from the Company’s exercise of its put right under the Purchase Agreement, the Company plans to finance efforts with respect to the GABAkinines program within our EndeavourRx neuromodulators platform. These efforts would be in preparation of an IND to be submitted to the FDA to commence human studies of KRM-II-81, our lead GABAkine drug candidate, for treatment-resistant epilepsy, and expenditures would include (i) an estimated spend of \$530,000 for CMC efforts, (ii) an estimated spend of \$450,000 for pre-clinical pharmacology, safety and absorption, distribution, metabolism, excretion (“ADME”) studies, (iii) an estimated spend of \$225,000 for animal safety studies and (iv) an estimated spend of \$65,000 for regulatory consultants.

In connection with the organization and development of the ResolutionRx and EndeavourRx business units, we are planning certain corporate and development actions as summarized below. All of the below are subject to raising additional financing and/or entering into strategic relationships, of which no assurance can be given.

Proposed Creation of Subsidiaries

Pending approval by the Board, management intends to organize our ResolutionRx and EndeavourRx business units into two subsidiaries: (i) a ResolutionRx subsidiary, into which we intend to contribute our pharmaceutical cannabinoid platform and its related

tangible and intangible assets and certain of its liabilities and (ii) an EndeavourRx subsidiary, into which we plan to contribute our neuromodulator platform, including both the AMPAkine and GABAkine programs and their related tangible and intangible assets and certain of their liabilities.

Management believes that there are several advantages to separating these platforms formally into newly formed subsidiaries, including but not limited to optimizing their asset values through separate finance channels and making them more attractive for capital raising as well as for strategic deal making.

Employee/Consultant Infrastructure Build-out

In order to broaden our operational expertise, we are planning to hire a number of highly qualified individuals, either as employees or consultants and, in tandem, increase our administrative support function.

Our relationship with Drs. Cook and Witkin has been highly cooperative to date. Our intent is to contractually formalize these relationships as consultants to the Company.

Key contracts

The Purisys Agreement and the UIC License Agreement will need to be transferred or otherwise made available to the ResolutionRx subsidiary. See “Information with Respect to our Company—Description of Business—*Manufacturing*” and “Information with Respect to our Company—Description of Business—*Technology Rights—University of Illinois License Agreement*” for more information on these agreements. While this subsidiary’s initial, primary focus will be on repurposing dronabinol for the treatment of OSA, we believe that our broad enabling patents and a new proprietary formulation may provide a framework for expanding into the larger burgeoning pharmaceutical cannabinoid industry. We believe that by creating this subsidiary, it may be possible, through separate finance channels and potential strategic transactions, to optimize the asset value not only of the ResolutionRx cannabinoid platform, but our EndeavourRx neuromodulator platform as well.

Prospective Investors

We have had discussions with a number of potential cannabinoid investors and strategic partners who have expressed interest, mostly in the development of a new, proprietary formulation with extended patent life. Forming a new subsidiary for our cannabinoid platform or our neuromodulator platform may allow us to attract financing from investors with a desire to invest in one platform but not the other.

Intellectual Property

The Company has exclusive rights to issued and pending patents claiming cannabinoid compositions and methods for treating cannabinoid-sensitive disorders, including sleep apnea, pain, glaucoma, muscular spasticity, anorexia and other conditions. In October 2019, we filed a continuation-in-part for our pending patent that describes and claims novel doses, controlled release compositions and methods of use for cannabinoids, as well as a new U.S. provisional patent application further disclosing novel dosage and controlled release compositions and methods of use for cannabinoids, alone or in combination, including with cannabinoid and non-cannabinoid molecules. Specific claims describe low dosage strengths and controlled release formulations for attaining a therapeutic window of cannabinoid blood levels that produce the desired therapeutic effects for a controlled period of time, while minimizing undesirable side effects. As previously disclosed, the original patents were filed by the Company and are now included in the UIC License Agreement. See “Information with Respect to our Company—Description of Business—*Technology Rights—University of Illinois License Agreement*” for more information on the UIC License Agreement. While no assurance can be provided that the claims in this continuation-in-part or the U.S. provisional patent application will be allowed in whole or in part, or that the patents will ultimately issue, we believe that these new filings, if allowed, will provide market protections through at least 2031.

We believe our intellectual property initiatives may afford expanding strategic options and market exclusivity in the burgeoning pharmaceutical cannabinoid business sector. New cannabinoid formulation technology is headed in the direction of enhanced absorption. These technologies, including nano- and micro-emulsions and thin films, have been shown to bypass the normal route of absorption and liver metabolism of cannabinoids, thus dramatically increasing blood levels and allowing for the use of low doses. Similarly, technologies may be used to achieve a controlled release of dronabinol, and we believe that our pending patent priority relating back to 2010 predates the efforts of others seeking to develop low-dose or extended release formulations of cannabinoids. Thus, to the extent that new technologies result in lower doses and/or controlled release formulations, we believe they would infringe on our pending patents once issued, not only for use in the treatment of OSA but potentially a wide variety of other indications as well.

Data from our Phase 2 clinical trials has allowed us to design new proprietary formulations of dronabinol, disclosed in our patent filings and optimized for the treatment of not only OSA, but also other indications. Within the past 12 to 24 months, new formulation technology has emerged potentially allowing for the creation of a proprietary dronabinol formulation with optimized dose and duration of action for treating OSA. We have discussions in progress with a number of companies that have existing cannabinoid formulation technologies, expertise, and licensure capabilities, which may lead to the development of a proprietary formulation of dronabinol for the Company based on our pending patents for low-dose and extended release dronabinol and may lead to the development of a marketable proprietary formulation of dronabinol. We believe that the development of a novel, proprietary formulation of dronabinol would only extend time to market entry by approximately 12 months compared to the currently available generic soft gel capsules, but would dramatically extend market exclusivity; however, no assurance can be provided that any of the formulation technologies that we are currently analyzing will result in viable products or that formulation agreements will be consummated on terms acceptable to us. The failure to consummate a formulation agreement would materially and adversely affect the Company.

The Opportunity to Improve Dronabinol Formulations

Dronabinol is currently marketed as a soft gelatin capsule that suffers from several major deficiencies.

First, dronabinol exhibits poor and erratic absorption. Δ^9 -THC is not water soluble. The market dominant commercial gelcap dronabinol is currently formulated as a sesame oil-based liquid within a soft gelatin capsule. The absorption of dronabinol after oral administration is poor and highly variable with some patients achieving very high levels and others achieving very low levels. This erratic absorption may be responsible for the variable therapeutic responses observed in dronabinol clinical trials. Syndros[®], on the other hand, is formulated as a solution in dehydrated alcohol, polyethylene glycol and other materials and exhibits its own challenges and deficiencies, including but not limited to it being Schedule II as compared to the capsule that is Schedule III.

Second, dronabinol is rapidly and extensively (approximately 80%) metabolized upon first pass through the liver, resulting in low blood levels. Additionally, dronabinol has a relatively short half-life (approximately 3 – 4 hours) and, in its present formulation, is not optimally suited for therapeutic indications requiring blood levels to be sustained for 6 hours or longer.

Third, in order to achieve sustained, therapeutic blood levels, we have found it necessary to use higher doses of dronabinol in our OSA clinical trials. For example, over an 8-hour period, the 2.5 mg and 10 mg doses produced therapeutically equivalent effects during the first 4 hours, but only the 10 mg dose produced therapeutic effects during the second 4 hours. Unfortunately, the 10 mg dose produces a higher occurrence of side effects than the 2.5 mg dose (as described in the Marinol® package insert). We anticipate focusing on new formulations that would achieve the blood levels produced by the lower doses for a sustained time period, resulting in the desired therapeutic effect(s) while minimizing undesirable side effects.

Large Commercial Opportunity

As a serious public health issue, the important need for diagnosing and ultimately treating OSA has recently been highlighted by the FDA clearance of several sleep apnea home test kits that are now third party reimbursed. Further highlighting this need, CVS Health Corporation (NYSE: CVS) announced the implementation of a program to diagnose and treat OSA initially within their own in-store, walk-in MinuteClinics. If implemented throughout their HealthHUB store network, the number of people diagnosed with sleep apnea and eligible for treatment should increase dramatically. Fitbit (NYSE: FIT), the health oriented smart watch company is seeking clearance from the FDA to diagnose sleep apnea. We believe that the combination of more efficient and patient friendly diagnostic procedures and, ultimately, pharmaceutical treatments such as those we are developing will encourage more patients to seek diagnosis and treatment. As noted above, there are approximately 29 million OSA patients in the United States and an additional 26 million in Germany and 8 million in the United Kingdom. There are currently no drugs approved for the treatment of OSA.

As noted below in “—*Proposed Regulatory Process*,” there are several ways to achieve market exclusivity with respect to this large and underserved patient population.

Proposed Regulatory Process

In conjunction with its management and consultants, the Company intends to file a new NDA under Section 505(b)(2) of the Federal Food, Drug and Cosmetic Act (as amended, the “FDCA” and such NDA a “505(b)(2) NDA”), claiming the efficacy and safety of our proposed proprietary dronabinol formulation in the treatment of OSA. We believe the use of dronabinol for the treatment of OSA is a novel indication for an already approved drug, making it eligible for a 505(b)(2) NDA, 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 Act, as amended (the “Hatch-Waxman Act”), which amended the FDCA to help avoid unnecessary duplication of studies already performed on a previously approved drug. As amended, the FDCA gives the FDA express permission to rely on data not developed by the NDA applicant. Accordingly, 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 still allowing for the creation of new, differentiated products. The 505(b)(2) NDA regulatory path offers the applicant market protections, such as market exclusivity, under the Hatch-Waxman Act and the rules promulgated thereunder. Other, international regulatory routes are available to pursue proprietary formulations of dronabinol and would provide further market protections. For example, 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.

We have worked with regulatory consultants who will assist with FDA filings and regulatory strategy. If we can secure sufficient financing, of which no assurance can be provided, we anticipate requesting a pre-IND meeting with the FDA. This meeting also could create the type of dialogue with the FDA that is normally communicated at an end-of Phase 2 meeting. The FDA responses to this meeting will be incorporated into an IND.

If we can secure sufficient financing, of which no assurance can be provided, we plan to propose conducting the appropriate clinical studies with our proprietary controlled release formulation in OSA patients to determine safety, pharmacokinetics and efficacy, as well as a standard Phase 1 clinical study to determine potential abuse liability. 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 the standard 505(b)(1) NDA. While no assurance can be provided, with an extensive safety database tracking chronic, long-term use of Marinol® and generics, we believe that the FDA should not have major safety concerns with dronabinol in the treatment of OSA.

The Company has worked with the investigators who conducted the Phase 2B clinical trial, as well as with our Clinical Advisory Panel to design a draft 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 controlled release formulation for OSA. 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, the Company 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.

We believe our rights under the Purisys Agreement would help facilitate regulatory approval. Under the Purisys Agreement, Purisys has agreed to (i) provide all of the API estimated to be needed for the clinical development process for first- and second-generation products, three validation batches for NDA filings and adequate supply for the initial inventory stocking for the wholesale and retail channels, subject to certain limitations, (ii) maintain or file valid 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 DEA meetings as appropriate and as related to the API.

In consideration for these supplies and services, the Company has agreed to (i) purchase exclusively from Purisys, during the commercialization phase, all API for these products at a pre-determined price subject to certain producer price adjustments and (ii) allow Purisys’s participation in the economic success of the commercialized products up to the earlier of the achievement of a maximum dollar amount or the expiration of a period of time. See “Information with Respect to our Company—Description of Business—*Manufacturing*” for information on the Purisys Agreement.

Results of Operations

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

	Six-months ended		Year ended	
	June 30,		December 31,	
	2020	2019	2019	2018
	(Unaudited)			
Operating expenses:				
General and administrative	\$ 829,019	\$ 594,904	\$ 1,137,175	\$ 1,488,238
Research and development	308,466	297,350	599,329	688,286
Total operating expenses	1,137,485	892,254	1,736,504	2,176,524
Loss from operations	(1,137,485)	(892,254)	(1,736,504)	(2,176,524)
Loss on extinguishment of debt and other liabilities in exchange for equity	(323,996)	-	-	(166,382)
Interest expense	(331,316)	(151,645)	(404,661)	(136,243)
Foreign currency transaction gain (loss)	29,942	26,354	26,132	(112,641)
Net loss attributable to common stockholders	\$ (1,762,855)	\$ (1,017,545)	\$ (2,115,033)	\$ (2,591,790)
Net loss per common share - basic and diluted	\$ (0.04)	\$ (0.26)	\$ (0.54)	\$ (0.77)
Weighted average common shares outstanding - basic and diluted	49,320,761	3,872,076	3,908,479	3,351,105

Six-months Ended June 30, 2020 and 2019

Revenues. The Company had no revenues during the six-months ended June 30, 2020 and 2019.

General and Administrative. For the six-months ended June 30, 2020, general and administrative expenses were \$829,019, an increase of \$234,115, as compared to \$594,904 for the six-months ended June 30, 2019. The increase in general and administrative expenses for the six-months ended June 30, 2020, as compared to the six-months ended June 30, 2019, is primarily due to an increase in general and administrative salaries of \$49,525 with the addition of compensation and benefits for our new Chief Executive Officer and President effective May 6, 2020, an increase general legal fees of \$154,326, primarily related to legal fees associated with the April 2020 and June 2020 convertible note financings, the increase in the number of our authorized shares that required the filing of a Form DEF 14C with the Securities and Exchange Commission and a filing with the State of Delaware, and other general matters as well as an increase in patent legal fees of \$13,659 and an increase in directors and officers liability insurance and other insurance costs of \$10,162, offset by the net effect of increases and decreases in other general and administrative expenses. There was no stock-based compensation in general and administrative expenses for the six-months ended June 30, 2020 or 2019.

Research and Development. For the six-months ended June 30, 2020, research and development expenses were \$308,466, an increase of \$11,116, as compared to \$297,350 for the six-months ended June 30, 2019. The increase in research and development expenses for the six-months ended June 30, 2020, as compared to the six-months ended June 30, 2019, is primarily a result of an adjustment to one research contract, an increase in research and development related insurance and the payment of option fee associated with the option agreement related to the UWMRF Patent License Agreement. There was no stock-based compensation in research and development expenses for the six-months ended June 30, 2020 or 2019.

Interest Expense. During the six-months ended June 30, 2020, interest expense was \$331,316 as compared to \$151,645 for the six-months ended June 30, 2019. The increase of \$179,671 is primarily the result of interest and amortization of note discounts to interest expense with respect to the convertible notes arising in August, October and November 2019 that were included in the current year three-month period but did not exist in the prior year comparable three-month period.

Foreign Currency Transaction (Loss) Gain. Foreign currency transaction gain was \$29,942 for the six-months ended June 30, 2020, as compared to a foreign currency transaction gain of \$26,354 for the six-months ended June 30, 2019. The foreign currency transaction (loss) gain relates to the \$399,774 loan from SY Corporation made in June 2012, which is denominated in the South Korean Won.

Loss on Extinguishment of Convertible Debt. The loss on extinguishment of convertible debt during the six-months ended June 30, 2020 was \$323,996 as compared to \$0 in the six-months ended June 30, 2019. On March 21, 2020, the Company entered into exchange agreements with several note holders and exchanged an aggregate of \$255,786 of principal and accrued interest for 17,052,424 shares of the Company's stock with an exchange price of \$0.015 per share which was less than the closing price of \$0.034 per share. There was no loss on extinguishment of convertible debt during the six-months ended June 30, 2019.

Net Loss Attributable to Common Stockholders. For the six-months ended June 30, 2020, the Company incurred a net loss of \$816,137 as compared to a net loss of \$477,213 for the six-months ended June 30, 2019. Included in the net loss is a loss on extinguishment of convertible debt of \$323,996.

The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has incurred net losses of \$1,762,855 for the six-months ended June 30, 2020 and \$2,115,033 for the fiscal year ended December 31, 2019 respectively, as well as negative operating cash flows of \$106,448 for the six-months ended June 30, 2020 and \$487,745 for the fiscal year ended December 31, 2019. The Company also had a stockholders' deficiency of \$7,846,748 at June 30, 2020 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 audit report on the Company's consolidated financial statements for the year ended December 31, 2019, 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 current source of revenue. Management is continuing to address various aspects of the Company's operations and obligations, including, without limitation, debt obligations, financing requirements, establishment of new and maintenance and improvement of existing and in-process 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 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, 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 of our 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.

Years Ended December 31, 2019 and 2018

Revenues. During the year ended December 31, 2019 and 2018, the Company had no revenues.

General and Administrative. For the year ended December 31, 2019, general and administrative expenses were \$1,137,175, a decrease of \$351,063, as compared to \$1,488,238 for the year ended December 31, 2018.

Stock-based compensation costs and fees included in general and administrative expenses were \$0 for the December 31, 2019, as compared to \$14,248 for the year ended December 31, 2018, reflecting a decrease of \$14,248. The decrease is the result of the fact that no stock-based compensation was granted to general and administrative employees of the Company during the year ended December 31, 2019. Salaries and employee benefits included in general and administrative expenses were \$439,807 for the year ended December 31, 2019 as compared to \$685,884 for the year ended December 31, 2018, a decrease of \$246,077. The decrease is primarily due to the full year elimination of the salary and employee benefits of the former Chief Executive Officer and President in the year ended December 31, 2019 as compared to the elimination of only one quarter of a year of such expenses in the year ended December 31, 2018. Legal fees for general corporate purposes were \$213,289 for the year ended December 31, 2019 as compared to \$278,373 for the year ended December 31, 2018, a decrease of \$65,084. Legal fees for patents and other patent expenses included in general and administrative expenses were \$147,722 for the year ended December 31, 2019, a decrease of \$51,641 as compared to \$199,363 for the year ended December 31, 2018. The decreases in both general legal fees and legal fees associated with patents and other patent costs is a result of a reduction in utilization of professional resources as part of the Company’s cost control efforts, partially offset by patent legal fees associated with patent filings made in October 2019.

The remaining \$25,987 of increases in general and administrative expenses is due to a number of increases partially offset by decreases in a number of other expense categories.

Research and Development. For the year ended December 31, 2019, research and development expenses were \$599,329, a decrease of \$88,957, as compared to \$688,286 for the year ended December 31, 2018, primarily due to a decrease in the utilization of consultants and a decrease in research contract expenses.

Loss on Extinguishment of Debt and other Liabilities in Exchange for Equity. There was no loss on extinguishment of debt or other liabilities for the year ended December 31, 2019 as compared to a loss of \$166,382 for the year ended December 31, 2018.

Interest Expense. During the year ended December 31, 2019, interest expense was \$404,661 (including \$60,135 to related parties of which \$49,863 is to a single vendor that is also a related party representing interest on invoices subject to delayed payment), an increase of \$268,418, as compared to \$136,243 (including \$42,821 to related parties) for the year ended December 31, 2018. The increase in interest expense resulted primarily from interest on five new convertible notes issued from January through March 2019 totaling \$110,000 of principal amount in 2019, and five additional new convertible notes issued in April, May, August, October and November 2019 totaling \$393,500 of principal and additional interest with respect to the Salamandra legal settlement as well as from a single vendor associated with the delay of cash remittances to that vendor.

Foreign Currency Transaction Loss or Gain. The foreign currency transaction gain was \$26,132 for the year ended December 31, 2019, as compared to a foreign currency transaction loss of \$112,641 for the year ended December 31, 2018. The foreign currency transaction loss or gain relates to the \$399,774 loan from SY Corporation Co., Ltd., formerly known as Samyang Optics Co. Ltd. ("SY Corporation"), made in June 2012, which is denominated in the South Korean Won.

Net Loss. For the year ended December 31, 2019, the Company incurred a net loss of \$2,115,033, as compared to a net loss of \$2,591,790 for the year ended December 31, 2018.

Liquidity and Capital Resources

June 30, 2020

Working Capital and Cash. The Company's condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has incurred net losses of \$1,762,854 and net losses from operations of \$1,137,484 for the six-months ended June 30, 2020 and \$2,115,033 for the fiscal year ended December 31, 2019, and negative operating cash flows of \$106,448 for the six-months ended June 30, 2020 and \$487,745 for the fiscal year ended December 31, 2019, had a stockholders' deficiency of \$7,846,748 at June 30, 2020, 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 condensed consolidated financial statements for the year ended December 31, 2019, expressed substantial doubt about the Company's ability to continue as a going concern.

At June 30, 2020, the Company had a working capital deficit of \$7,846,748, as compared to a working capital deficit of \$7,444,819 at December 31, 2019 reflecting an increase in the working capital deficit of \$401,929 for the six-months ended June 30, 2020. The increase in the working capital deficit is due to an increase in current liabilities of \$442,284 and a decrease in cash of \$15,198 offset by an increase in prepaid expenses of \$55,553.

At June 30, 2020, the Company had cash aggregating \$1,492, as compared to \$16,690 at December 31, 2019, reflecting a decrease in cash of \$15,198 for the six-months ended June 30, 2020.

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 current 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. See Note 8. Commitments and Contingencies and Note 9. Subsequent Events in notes to condensed consolidated financial statements of the Company as of June 30, 2020 for information on these commitments and obligations.

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. See "*Principal Sources of Liquidity*" for more information on certain existing and potential financing opportunities.

Operating Activities. For the six-months ended June 30, 2020, operating activities utilized cash of \$106,448, as compared to utilizing cash of \$266,278 for the six-months ended June 30, 2019, to support the Company's ongoing general and administrative expenses as well as its research and development activities.

Principal Sources of Liquidity

For the six-months ended June 30, 2020, financing activities consisted of a \$1,250 advance from an executive officer, net proceeds of \$50,000 after payment of \$3,000 of capitalized note costs from the Power Up April 2020 Note financing and net proceeds of \$40,000 after payment of \$3,000 of capitalized note costs from the Power Up June 2020 Note financing. For the six-months ended June 30, 2019, financing activities consisted of borrowings on convertible notes with warrants of \$213,500 less debt issuance costs of \$5,500 for net proceeds of \$208,000 and the proceeds from a note payable to an officer of \$25,000. Financing activities since June 30, 2020 that provided sources of liquidity consisted of net proceeds of \$125,000 from the FirstFire SPA, net proceeds of \$68,250 from the EMA SPA. See Note 9. Subsequent Events in notes to condensed consolidated financial statements of the Company as of June 30, 2020 for more information on these financing activities.

The Company intends to continue its efforts to finance its research and development efforts and general and administrative expenses and in doing so, anticipates taking additional steps as necessary to access the full availability of its equity line under the Purchase Agreement with the Selling Stockholder, which is likely to include the filing of one or more subsequent resale registration statements. No assurance can be provided, however, that the Company will be able to access the full potential gross proceeds under the Purchase Agreement. The Company will also seek financing from the sale of common equity securities, equity-linked securities, convertible debt, preferred stock, convertible preferred stock, debt or other forms of financing, but no assurance can be provided that such financing will be obtained on terms acceptable to the Company or at all.

Additionally, the Company has issued, and may issue in the future, its preferred stock to its executive officers in exchange for the extinguishment of those executive officers' rights to the payment of certain accrued compensation. See “—*Compensation Forgiveness by Arnold S. Lippa and Jeff Margolis and Related Issuance of Series H Preferred Stock*” in Note 9. Subsequent Events to notes to condensed consolidated financial statements of the Company as of June 30, 2020 and “Executive Compensation—Certain Relationships and Related Party Transactions—*Transactions with Related Persons*” for information on these exchanges.

December 31, 2019

Working Capital and Cash. The Company's 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 \$2,115,033 for the fiscal year ended December 31, 2019 and \$2,591,790 for the fiscal year ended December 31, 2018, and negative operating cash flows of \$487,745 and \$427,368 for the fiscal years ended December 31, 2019 and 2018 respectively. The Company had a stockholders' deficiency of \$7,444,819 at December 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. In addition, the Company's independent registered public accounting firm, in its report on the Company's consolidated financial statements for the year ended December 31, 2019, has expressed substantial doubt about the Company's ability to continue as a going concern (see “Going Concern” below).

At December 31, 2019, the Company had a working capital deficit of \$7,444,819, as compared to a working capital deficit of \$5,736,369 at December 31, 2018, reflecting an increase in the working capital deficit of \$1,708,450 for the fiscal year ended December 31, 2019. This increase is comprised of an increase in total current liabilities of \$1,632,702, and a decrease in current assets of \$78,862. The increase in total current liabilities consists of a net increase in accounts payable and accrued expenses of \$468,910, an increase in accrued compensation and related expenses of \$779,407, an increase in convertible notes payable of \$311,925, an increase in the note payable to SY Corporation of \$21,795, an increase in notes payable to officers and former officers of \$54,938 partially offset by a decrease in other short-term notes payable of \$4,273. At December 31, 2019, the Company had cash aggregating \$16,690 as compared to \$33,284 at December 31, 2018, reflecting a decrease in cash of \$16,594 during the fiscal year ended December 31, 2019.

Operating Activities. For the fiscal year ended December 31, 2019, operating activities utilized cash of \$487,745 as compared to utilizing cash of \$427,368 for the fiscal year ended December 31, 2018, to support the Company's ongoing operations and research and development activities.

Financing Activities. For the fiscal year ended December 31, 2019, financing activities consisted of ten convertible note financings. In January, February and March 2019, the Company issued new 10% convertible notes, due on either February 28, 2019 or April 30, 2019 with face amounts of \$110,000 in the aggregate. Common stock purchase warrants were issued in connection with such notes. The Company valued the warrants and recorded an original issue discount associated with the new 10% convertible notes which was then amortized in its entirety during 2019. On March 22, 2020 the principal and accrued interest related to four of the five notes was exchanged for shares of common stock. In April, May, August, October and November 2019, the Company issued five new convertible notes due on dates ranging from 9 months to 12 months from the issue date. The aggregate amounts payable at maturity of these notes was \$393,500. Certain of these notes were partially settled through conversions of portions of the maturity amounts into shares of common stock.

Going Concern. The Company's 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 \$2,115,033 for the fiscal year ended December 31, 2019 and \$2,591,790 for the fiscal year ended December 31, 2018, and negative operating cash flows of \$487,745 and \$427,368 for the fiscal years ended December 31, 2019 and 2018, respectively. The Company had a stockholders' deficiency of \$7,444,819 at December 31, 2019 and expects to continue to incur net losses and negative operating cash flows for at least the next few years.

Off-Balance Sheet Arrangements

At September 30, 2020, the Company did not have any transactions, obligations or relationships that could be considered off-balance sheet arrangements.

Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

The Company engaged Haskell & White LLP to audit its 2019 financial statements on January 14, 2020. Since that time, there have been no disagreements (as defined in Item 304(a)(1)(4) of Regulation S-K) with Haskell & White LLP on any matter of accounting

principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of Haskell & White LLP, would have caused Haskell & White LLP to make reference on the subject matter of the disagreements in its reports.

DIRECTORS AND EXECUTIVE OFFICERS

The name, age and position of each of our directors and executive officers as of the date of this prospectus are as follows. Each of our directors serves until his or her resignation or until a successor is appointed.

Name	Age	Director Since	Position
Arnold S. Lippa	73	2013	Director, Chief Scientific Officer and Chairman of the Board
Timothy Jones	47	2020	Director, President and Chief Executive Officer
Jeff E. Margolis	64	2013	Director, Senior Vice President, Chief Financial Officer, Treasurer and Secretary
Kathryn MacFarlane, PharmD	54	2014	Director
Richard Purcell	60	N/A	Senior Vice President of Research and Development
David Dickason	57	N/A	Senior Vice President Pre-clinical Product Development

At September 30, 2020, each of our executive officers except Richard Purcell was also a member of our Board, and each executive officer of the Company serves at the discretion of the Board. See “—Significant Agreements and Contracts—Employment Agreements” in Note 8. Commitments and Contingencies to notes to condensed consolidated financial statements (unaudited) of the Company as of June 30, 2020 for information on the term of service for each of Dr. Lippa, Mr. Margolis, and Mr. Jones. Mr. Purcell provides his services to the Company on a month-to-month basis through his consulting firm, DNA Healthlink, Inc. for a monthly fee of \$12,500. See “Executive Compensation” for information on the compensation of our executive officers for fiscal year 2019.

Arnold S. Lippa, Ph.D. Dr. Lippa is a Senior Managing Director and founder of T Morgen Capital LLC through which he administers his family’s assets. T Morgen Capital LLC is a significant equity owner and managing member of Aurora Capital LLC (“Aurora”), a boutique investment bank and securities firm of which Mr. Margolis is the president and founder, which has served as a placement agent with respect to certain of the Company’s prior financings. Dr. Lippa and Mr. Margolis jointly manage, since 2004, Atypical BioCapital Management LLC and Atypical BioVentures Fund LLC, a life sciences fund management company and venture fund, respectively. Since 2006, Dr. Lippa has also been the Executive Chairman of the board of Xintria Pharmaceutical Corporation, a Delaware corporation, as well as a member of its board of directors. Dr. Lippa is a member of the board of directors of Hepion Pharmaceuticals, Inc. (formerly, ContraVir Pharmaceuticals, Inc.) since December 2015 where he is a member of the audit committee, the compensation committee and the corporate governance/nominating committee. Dr. Lippa was co-founder of DOV Pharmaceutical, Inc., where he served as chairman of the board and chief executive officer from its inception in 1995 through 2005. Dr. Lippa stepped down as a director of DOV Pharmaceuticals, Inc. in 2006. We believe that Dr. Lippa’s qualifications to serve on our Board include his former positions of Chief Executive Officer and President and Interim Chief Executive Officer and Interim President as well as his current position as the Company’s Chief Scientific Officer, and his experience working in management roles in other pharmaceutical companies as described above. We also believe that Dr. Lippa’s qualifications also include his experiences as a financier of both biopharmaceutical and other companies. Dr. Lippa provides the Board with both technical and scientific expertise in drug discovery and drug development, research management, governmental regulations and strategic planning expertise that is important to the advancement of our research platforms as well as to the overall success of the Company. Dr. Lippa was appointed to our Board in March 2013.

Jeff E. Margolis. Mr. Margolis is the president and founder of Aurora, and has been since its inception in 1994. Aurora Capital Corp., a corporation wholly owned by Mr. Margolis, is a significant equity owner and managing member of Aurora. Dr. Lippa and Mr. Margolis jointly manage, since 2004, Atypical BioCapital Management LLC and Atypical BioVentures Fund LLC, a life sciences fund management company and venture fund, respectively. Since 2006, Mr. Margolis has also been the chief financial officer of Xintria Pharmaceutical Corporation, a Delaware corporation, as well as a member of its board of directors. We believe that Mr. Margolis’s qualifications to serve on our Board include his significant experience in financial, operational and management roles within pharmaceutical companies and within the financial industry as described above. He also has extensive prior experience working in business development and provides the Company with extremely useful expertise in financing and capital markets, knowledge gained though his position as president of Aurora. Mr. Margolis also provides broad financial expertise. Mr. Margolis was appointed to our Board in March 2013.

Kathryn MacFarlane, PharmD. Ms. MacFarlane is the co-founder and managing partner of SmartPharma, LLC (“SmartPharma”), where she has contracted to serve as the chief commercial officer of Agile Therapeutics and the senior vice president of commercial development for Napo Pharmaceuticals. SmartPharma performs market assessments and develops forecasts and commercial plans for pharmaceutical products. Ms. MacFarlane has provided advice to over 75 companies and investors on financing, licensing, and acquisition of drug products and technologies. She is an experienced pharmaceutical executive with over 25 years in the industry, including senior level roles in drug development, marketing, and sales management at Parke-Davis, Pfizer, and Warner Chilcott, where she was the vice president of sales, marketing, and new product planning. Ms. MacFarlane played a key role in the launch of several leading brands, most notably Lipitor®, Celexa®, and Loestrin® 24. Ms. MacFarlane earned a B.S. and PharmD from Purdue University and completed a Postdoctoral Fellowship with Rutgers University and Hoffmann-LaRoche. She was named a Distinguished Alumna and was awarded the Eaton Entrepreneur of the Year by the Purdue University School of Pharmacy, where she currently is an Affiliate Faculty member. Ms. MacFarlane is chairwoman on the finance committee for the board of directors of INMED Partnerships for Children, and a member of the executive committee of the Woodley Park Community Association. We believe Ms. MacFarlane’s qualifications to serve on our Board include both her biopharmaceutical consulting background and her familiarity with the biopharmaceutical regulatory and commercialization environment, as well as the breadth of her technical and therapeutic knowledge, as discussed above. Ms. MacFarlane has also served in numerous senior executive positions at various biopharmaceutical companies. Ms. MacFarlane was appointed to our Board in September 2014.

Timothy Jones. Until April 10, 2020, Mr. Jones was the vice president global pharmaceutical and medical OTC at Purisys, an affiliate of Noramco formed in September 2019. Mr. Jones received approval from Purisys to join the Board subject to (i) Mr. Jones’ recusal from Company discussions about Noramco or Purisys, and (ii) Mr. Jones’ relinquishment of responsibility of the Company’s account representation to the chief executive officer and president of Purisys. Mr. Jones’ experience includes 15 years of API (active pharmaceutical ingredient) sales, business development, and sourcing in the niche, controlled substances space. He is recognized in the industry for his expertise in the strategic development and growth of active pharmaceutical ingredient categories, through partnerships with a broad cross section of brand and generic companies worldwide. His extensive knowledge base and expertise across multiple pharmaceutical disciplines have contributed to his successful track record of financial growth. He previously held leadership roles with QuVa Pharma, Par Sterile Products, and Johnson Matthey. We believe Mr. Jones’ qualifications to serve on our Board include his extensive background in biopharmaceutical business development and supply chain as well as his familiarity with business involving controlled substances, particularly cannabinoid controlled substances, as well as the breadth of his industry network. Mr. Jones has also served in numerous leadership positions at various biopharmaceutical companies. Mr. Jones was appointed to our Board in January 2020.

Richard Purcell. In addition to his role at the Company, Richard Purcell (Age: 59) has managed a consulting firm, DNA Healthlink, Inc. Since 2005, Mr. Purcell has been advising emerging biopharmaceutical and technology companies on new business strategy, operations management, and clinical development of novel compounds. In his role as executive vice president of research and development for Generex Biotechnology Corporation, he is active in strategic planning, business development, clinical operations, R&D, and M&A. Mr. Purcell has over 30 years of experience in consulting and advising emerging biopharmaceutical and technology companies on new business strategy, operations management, clinical development of novel compounds, data solutions for clinical and medical applications, patient engagement and communication, medical education for professionals and consumers, and data analytics for outcomes research. He is a biopharmaceutical development specialist, with extensive experience in providing consulting services to financial, venture capital, and start-up companies to concentrate on new business strategy and clinical development of novel compounds. From 2011 to 2017, Mr. Purcell was the president and founder of a healthcare IT startup, IntelliSanté. Previously, Mr. Purcell was President of ClinPro, Inc., a mid-sized clinical research organization (CRO). At ClinPro, Mr. Purcell was responsible for the company’s business development, strategic planning, sales and IT operations. His significant expertise in designing and executing clinical studies for the marketing of drugs was critical to expand the company’s operations into the global marketplace. Prior to joining ClinPro, Mr. Purcell worked for SCP Communications (“SCP”), a medical communications company, where he served as corporate vice president and general manager of the clinical programs division. During his time at SCP, he founded SCP Clinical Programs, a CRO specializing in Phase IIIb and Phase IV clinical research studies. At SCP, Mr. Purcell designed and managed a number of clinical programs for such drugs as Lipitor, Avandia, Accolate, Meridia, and Tequin. In addition, he participated in the startup of the medical website, Medscape, through sales and business development initiatives. Early in his career, Mr. Purcell was the business manager of the pharmaceutical and biotechnology practice at a management consulting firm, the Kline Group, after beginning his career as a scientist at Hoffmann-LaRoche and Integrated Genetics.

David Dickason. Mr. Dickason is a highly experienced senior executive with over 30 years of pharmaceutical development experience and 9 approved NDAs. He has broad experience in product development and cGMP manufacturing for a variety of products including parenteral, inhalable, topical, solid and liquid oral dosage forms and specialized expertise in drug product development using innovative technologies for both existing and new chemical entities.

Mr. Dickason has held senior technical roles at multiple companies including iCeutica, Inc., Iroko Pharmaceuticals LLC, GTx, Inc. Alkermes, Inc. and Cephalon, Inc. He was Director of Formulation Development at GTx, Inc. from 2006 to 2010. At Iroko Pharmaceuticals, LLC, he was Vice President of Technical Development from 2010 to 2016 where he established and led the development team which successfully completed full drug product formulation and process development from Phase 1 through NDA filing and approval in less than 36 months for 3 products in parallel. Prior to joining the Company, he was Senior Fellow of Technology Development at iCeutica, Inc. from 2016 to 2020.

Mr. Dickason has extensive experience in strategic planning and managing internal and outsourced drug product and process development activities as well as Commercial manufacturing technical activities from early phase through approval. Experience includes full development of drug products and establishment of first-of-kind multi-million dollar manufacturing equipment and facilities. He has broad expertise in Regulatory CMC filings from initial strategy through final submission to the FDA and International Regulatory Agencies.

Committees of the Board

The Board does not maintain any separate standing board committees. Instead, the functions of each of the Audit Committee, the Compensation Committee and the Governance and Nomination Committee have been and are currently being addressed by the full Board. This arrangement was initially implemented in 2013 when current management was put in place. At that time there were no independent directors. Since that time, the Company has added two independent directors, one in 2014 and one in 2020; however, because of the small size of the Board generally and because the Board includes only one independent director, the Company has not appointed standing committees.

Audit Committee

The Board meets with the Company's independent registered public accountants and management to prepare for and to review the results of the annual audit and to discuss the annual and quarterly financial statements, earnings releases and related matters. The Board, among other things, (i) selects and retains the independent registered public accountants, (ii) reviews with the independent registered public accountants the scope and anticipated cost of their audit, and their independence and performance, (iii) reviews accounting practices, financial structure and financial reporting, (iv) receives and considers the independent registered public accountants' comments as to controls, adequacy of staff and management performance and procedures in connection with audit and financial controls, (v) reviews and pre-approves all audit and non-audit services provided to the Company by the independent registered public accountants, and (vi) reviews and pre-approves all related-party transactions. The Board does not itself prepare financial statements or perform audits, and its members are not auditors or certifiers of the Company's financial statements.

Since the change in composition of our Board in March 2013, the composition of an Audit Committee has not been determined, nor has the current Board adopted an amended written charter. When an Audit Committee is re-established along with a written charter, such charter will be made available on the Company's website at www.respirerx.com.

Compensation Committee

The traditional functions of the Compensation Committee include, without limitation, administering the Company's incentive ownership programs and approving the compensation to be paid to the Company's directors and executive officers. The Board acting in the capacity of a Compensation Committee typically meets no less frequently than annually as circumstances dictate to discuss and determine executive officer and director compensation. Historically, the Company's Chief Executive Officer annually reviews the performance of each executive officer (other than the Chief Executive Officer, whose performance is reviewed by the Board). The conclusions reached and recommendations based on these reviews, including with respect to salary adjustments and annual award amounts, are presented to the Board, which can exercise its discretion in modifying any recommended adjustments or awards to executive officers. The Board is entitled to, but generally does not, retain the services of any compensation consultants. Neither the Board nor management has engaged a compensation consultant for fiscal year 2019.

Since the change in composition of our Board in March 2013, the members of the Board have performed the functions of a Compensation Committee and the composition of a Compensation Committee has not been determined nor has the current Board adopted a written committee charter. When a Compensation Committee is re-established along with a written charter, such charter will be made available on the Company's website at www.respirerx.com.

Governance and Nominating Committee

The traditional functions of the Governance and Nominations Committee include, without limitation, (i) identifying individuals qualified to become members of the Board, (ii) recommending director nominees for the next annual meeting of stockholders and to fill vacancies that may be created by the expansion of the number of directors serving on the Board and by resignation, retirement or other termination of services of incumbent directors, (iii) developing and recommending to the Board corporate governance guidelines and changes thereto, (iv) ensuring that the Board and the Certificate of Incorporation and Bylaws are structured in a way that best serves the Company’s practices and objectives, (v) leading the Board in its annual review of the Board’ performance; and (vi) recommending to the Board nominees for each committee. Accordingly, the Board, acting in the capacity of a Governance and Nominations Committee, annually reviews the composition of the Board as a whole and makes recommendations, if deemed necessary, to enhance the composition of the Board. The Board first considers a candidate’s management experience and then considers issues of judgment, background, conflicts of interest, integrity, ethics and commitment to the goal of maximizing stockholder value when considering director candidates. The Board also focuses on issues of diversity, such as diversity of gender, race and national origin, education, professional experience and differences in viewpoints and skills. The Board does not have a formal policy with respect to diversity; however, the Board believes that it is essential that the members of the Board represent diverse viewpoints. In considering candidates for the Board, the board considers the entirety of each candidate’s credentials in the context of these standards. With respect to the nomination of continuing directors for re-election, the individual’s contributions to the Board are also considered.

Since the change in composition of our Board in March 2013, the members of the Board have performed the functions of a Governance and Nominations Committee and the composition of a Governance and Nominations Committee has not been determined nor has the current Board adopted a written charter. When a Governance and Nominations Committee is re-established along with a written committee charter, such charter will be made available on the Company’s website at www.respirerx.com.

Director Compensation

When the Compensation Committee was standing, it had used a combination of cash and stock-based incentive compensation to attract and retain qualified candidates to serve on the Board. In setting director compensation, the Compensation Committee considered the significant amount of time that directors expend in fulfilling their duties to the Company, as well as the skill-level required by the Company of members of the Board. The Board, sitting as a Compensation Committee has continued these policies in carrying out the duties of the previous Compensation Committee.

There were no option grants to either James Sapirstein (resigned as a member of the Board in December 2019) or Kathryn MacFarlane during 2019 and 2018. Ms. MacFarlane earned \$60,000 during 2019 in cash compensation and Mr. Sapirstein earned \$58,207 in 2019 through the date of his resignation from the Board. Such amounts have not yet been paid.

Non-Employee Director Compensation for 2019

The following table shows the compensation accrued by the non-employee members of our Board for the year ended December 31, 2019. Directors who are also employees/officers of the Company did not receive any additional compensation for services as a director.

Name	Fees Earned or Paid in	
	Cash ⁽¹⁾ (\$)	Total (\$)
James Sapirstein	58,207	58,207
Kathryn MacFarlane	60,000	60,000

Changes to Non-Employee Director Compensation for 2020

The Board, acting as the Governance and Nominating Committee, did not change or adjust any components of director compensation during fiscal year 2020.

EXECUTIVE COMPENSATION

The following disclosure focuses on our named executive officers. For fiscal year 2019, our “named executive officers” consisted of: Arnold S. Lippa, Ph.D., Jeff E. Margolis, and Richard Purcell. Timothy Jones was appointed President and Chief Executive Officer effective May 6, 2020, and David Dickason was appointed Senior Vice President Pre-clinical Product Development effective September 15, 2020, in each case after the end of the most recent fiscal year, and as such, information on compensation of Mr. Jones and Mr. Dickason is not reflected in “—Summary Compensation Table for 2019” or “—Outstanding Equity Awards at December 31, 2019” below.

Summary Compensation Table for 2019

The table below summarizes the total compensation paid or earned by each of the named executive officers for the fiscal years ended December 31, 2019 and 2018. The information contained under the heading “Stock Awards” for all named executive officers includes the estimated value of equity awards using the Black-Scholes option-pricing model and does not reflect actual cash payments or actual dollars awarded.:

Name and principal position	Fiscal Year ⁽¹⁾	Salary (\$)	All Other Compensation (\$) ⁽²⁾	Total (\$)
Arnold S. Lippa, Ph.D. <i>Interim President, Interim Chief Executive Officer, Executive Chairman and Chief Scientific Officer⁽³⁾</i>	2019	339,600	-	339,600
	2018	339,600	-	339,600
Jeff E. Margolis <i>Senior Vice President, Chief Financial Officer, Treasurer and Secretary</i>	2019	321,600	-	321,600
	2018	321,600	-	321,600
Richard Purcell <i>Senior Vice President of Research and Development</i>	2019	150,000	49,863	199,863
	2018	150,000	17,682	167,682

- (1) The 2019 and 2018 salary amounts in the table above reflect contractual salary amounts plus employee benefits. There were no bonuses, stock or stock option awards or other compensation during the years ended December 31, 2019 and 2018. Mr. Purcell has been the Senior Vice President of Research and Development for the Company since October 15, 2014 and provides services to the Company on a month-to-month basis through DNA Healthlink, Inc. at the rate of \$12,500 per month.
- (2) In accordance with Securities and Exchange Commission rules, “Other Annual Compensation” in the form of perquisites and other personal benefits has been omitted where the aggregate amount of such perquisites and other personal benefits was less than \$10,000. The amount reflected for Richard Purcell is the amount of interest charged by DNA Healthlink, Inc. for delayed payment of invoices.
- (3) Effective May 6, 2020, with the appointment of Timothy Jones as the Company’s President and Chief Executive Officer, Dr. Lippa resigned the interim officer positions of Interim Chief Executive Officer and Interim President, positions that Dr. Lippa assumed on October 12, 2018 after the resignation of Dr. James Manuso on September 30, 2018.

In 2019 and 2018, no cash bonuses (performance or otherwise), stock awards or option awards were awarded. See “—*Significant Agreements and Contracts—Employment Agreements*” in Note 8. Commitments and Contingencies to notes to condensed consolidated financial statements (unaudited) of the Company as of June 30, 2020, above, and “—Employment Agreements” below for information on about the compensation terms under the employment agreements of Dr. Lipa and Mr. Margolis.

In connection with the recent changes to our board membership and taking into account the Company’s current operating structure and business plans, management is currently reevaluating the compensation policies of the Company and, as a result of that reassessment and in light of the Company’s current financial circumstances, has made departures from the Company’s historic compensation policies and will likely make substantial adjustments to such policies, including the termination of such policies, in the future.

Outstanding Equity Awards at December 31, 2019

The following table shows information concerning outstanding equity awards at December 31, 2019, made by the Company to its named executive officers.

Name	Option Awards		
	Number of securities underlying unexercised options (#) exercisable	Option exercise price (\$)	Option expiration Date
Arnold S. Lipa	46,154	8.125	6/30/22
	30,769	6.396	8/18/22
	73,847	7.3775	3/31/21
	50,000	3.90	1/17/22
	50,000	2.00	6/30/22
	559,595	1.45	12/9/27
Jeff E. Margolis	46,154	8.125	6/30/22
	30,769	6.396	8/18/22
	73,847	7.3775	3/31/21
	50,000	3.90	1/17/22
	50,000	2.00	6/30/22
	25,000	2.00	7/26/22
Richard Purcell	388,687	1.45	12/9/27
	6,154	8.125	6/30/22
	9,231	6.396	8/18/22
	61,359	7.3775	3/31/21
	40,000	3.90	1/17/22
	40,000	2.00	6/30/22
	100,000	1.45	12/9/27

At December 31, 2019, there were 1,731,746 options outstanding to named executive officers all of which had vested.

Employment Agreements

Two of the Company’s named executive officers, Dr. Lipa and Mr. Margolis, entered into employment agreements with the Company on August 18, 2015. Upon entering into such agreements, the Company disclosed these agreements and filed them as exhibits on a Current Report on Form 8-K on August 19, 2015. The employment agreements that would have terminated on September 30, 2018 for the two named executive officers above were automatically extended for periods of one year pursuant to the terms of such agreements on September 30, 2018 and 2019.

One of the Company's executive officers, Timothy Jones (together with Arnold S. Lippa Ph.D. and Jeff E. Margolis, the "Executives"), entered into an employment agreement with the Company on May 6, 2020, which was amended on July 31, 2020. Upon entering into this agreement, the Company disclosed this agreement and filed it as an exhibit on a Current Report on Form 8-K on May 6, 2020. Upon entering into the amendment to the agreement, the Company disclosed this amendment and filed it as an exhibit on a Current Report on Form 8-K on August 3, 2020. Mr. Jones was appointed President and Chief Executive Officer effective May 6, 2020, after the end of the most recent fiscal year, and as such, information on compensation of Mr. Jones is not reflected in "—Summary Compensation Table for 2019" or "—Outstanding Equity Awards at December 31, 2019" above.

Following is a summary of the arrangements that provide for payment to the Executive at, following or in connection with any termination, including resignation, retirement or other termination, or in connection with a change of control or a change in the Executive's responsibilities following a change in control.

Each of the Executive employment agreements provide that if the Executive is terminated by the Company for cause, or by the Executive without good reason, or as a result of death or disability, Executive (or his estate) would be entitled to receive (i) any base salary earned but not paid through the date of such termination, paid on the next regularly scheduled payroll date following such termination and (ii) all other benefits, if any, due Executive, as determined in accordance with the plans, policies and practices of the Company. There are currently no plans policies or practices of the Company under clause (ii) of the prior sentence that would provide any additional benefits.

Each of the Executive employment agreements provide that if the Executive is terminated by the Company without cause, or by the Executive for good reason, the Executive Officer would be entitled to (i) a lump sum payment equal to twelve months of the Executive's then current base salary and (ii) full acceleration of the vesting of any then unvested stock options or other equity compensation awards held by the Executive (with any unvested performance-based awards accelerated at 100% of target performance levels).

If the Executive were to breach any of section of the employment agreement related to confidentiality, inventions or restrictive covenants, or the Company determines that Executive engaged in an act or omission that, if discovered during Executive's employment, would have entitled the Company to terminate Executive's employment hereunder for Cause, the Executive would forfeit the right to any unpaid severance and any unexercised options.

As used in the employment agreements, "cause" means (i) any act of personal dishonesty taken by the Executive in connection with his employment hereunder, (ii) the Executive's conviction or plea of nolo contendere to a felony, (iii) any act by the Executive that constitutes material misconduct and is injurious to the Company, (iv) continued violations by the Executive of the Executive's obligations to the Company, (v) material breach of the employment agreement, (vi) commission of any act of serious moral turpitude, or (vii) material failure to comply with the lawful direction of the Board. As used in the employment agreements, "for good reason" means without Executive's express written consent (i) a material diminution of Executive's duties, position or responsibilities relative to Executive's duties, position or responsibilities in effect immediately prior to such reduction; (ii) a material diminution by the Company of Executive's base salary as in effect immediately prior to such reduction, other than a general reduction in base salary that affects all of the Company's executive officers; (iii) any material breach by the Company of the employment agreement; or (iv) the relocation of Executive to a facility or a location more than fifty (50) miles from the current location of the Executive's principal office, which the Company and Executive agree would constitute a material change in the geographic location at which Executive must perform services to the Company.

The Company entered into an agreement with DNA Healthlink, Inc. effective on October 15, 2014 pursuant to which Richard Purcell, the third named executive officer, serves as the Company's Senior Vice President of Research and Development on a month-to-month basis at the rate of \$12,500 per month.

The Company entered into a consulting contract with David Dickason effective September 15, 2020 pursuant to which Mr. Dickason serves as the Company's Senior Vice President of Pre-Clinical Product Development on an at - will basis at the rate of \$250 per hour. Mr. Dickason was appointed Senior Vice President of Pre-Clinical Product Development after the end of the most recent fiscal year, and as such, information on compensation of Mr. Dickason is not reflected in "—Summary Compensation Table for 2019" or "—Outstanding Equity Awards at December 31, 2019" above.

Certain Relationships and Related Party Transactions

Director Independence

As noted above, as of December 31, 2019, all of the functions of the Audit, Compensation and Governance and Nominations Committees were being performed by the full Board. As of September 30, 2020, Kathryn MacFarlane, PharmD. was an "independent director", as that term is defined under Section 803 of the NYSE Amex Company Guide. As of September 30, 2020, Dr. Lippa, Mr. Margolis, and Mr. Jones were not "independent directors" as defined above.

Transactions with Related Persons

On September 30, 2020, the Company entered into Exchange Agreements with Mr. Margolis, Dr. Lippa, Mr. Jones and two vendors, one of which is considered a related party, that being Marc M. Radin PC, the controller of the Company, whereby each of Mr. Margolis, Dr. Lippa and Mr. Jones forgave \$150,000, \$100,000 and \$28,218 of accrued compensation, respectively, and, in the case of Marc M. Radin, PC, \$135,659.48 of accounts payable was settled with 150, 100, 28.218 and 135.65948 shares of Series H Preferred Stock, respectively. Mr. Margolis and Dr. Lippa transferred such shares to family trusts which trusts converted such Series H Preferred Stock to Common Stock and warrants to purchase Common Stock. Mr. Jones converted his Series H Preferred Stock to Common Stock and warrants to purchase Common Stock. Marc M. Radin PC designated Marc M. Radin individually to be the recipient of its Series H Preferred Stock. Mr. Radin converted his Series H Preferred Stock to Common Stock and warrants to purchase Common Stock. For a more detailed description of the Series H issuances and conversion, see the section entitled “Recent Developments” in the “Prospectus Summary.”

On July 13, 2020, the Company entered into two Exchange Agreements with Mr. Margolis and Dr. Lippa in which they exchanged their right to receive accrued compensation in the aggregate of \$1,100,000 for shares of Series H Preferred Stock. See “—*Compensation Forgiveness by Arnold S. Lippa and Jeff Margolis and Related Issuance of Series H Preferred Stock*” in Note 9. Subsequent Events to notes to condensed consolidated financial statements of the Company as of June 30, 2020 for information on these exchanges.

On March 22, 2020, Dr. Lippa and Mr. Margolis each forgave \$153,000 of accrued compensation, for an aggregate of \$306,000 of accrued compensation, and received an aggregate of 9,000,000 shares of Common Stock.

During fiscal year 2019, Dr. Lippa advanced on an interest free basis the Company \$38,000 of which \$13,000 was repaid to Dr. Lippa. The outstanding balance of the advance is payable on demand. For fiscal year 2019, \$10,272 was charged to interest expense with respect to promissory notes issued by the Company in favor of Dr. Lippa.

Dr. Lippa has 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.

During fiscal year 2019, the Company repaid \$1,000 to Jeff Margolis related to \$6,500 of interest free advances Mr. Margolis made to the Company during fiscal year 2018. The outstanding balance of the advance is payable on demand.

For the fiscal year 2019, \$15,416 was charged to interest expense with respect to promissory notes issued by the Company in favor of Dr. James S. Manuso. As of September 30, 2018, Dr. James S. Manuso resigned his executive officer positions and as a member of the Board. All of the interest expense noted above for 2019 was incurred while Dr. Manuso was no longer an officer.

Dr. Lippa has 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 interest free advance by Dr. Lippa payable on demand. The balance of the amount payable to the auditors has been paid directly by the Company.

On September 4, 2018, the Company entered into the Purisys Agreement. See “Information with Respect to our Company—Description of Business—*Manufacturing*” for information on the Purisys Agreement. On January 28, 2020, Mr. Timothy Jones was appointed to the Board to fill the vacancy created by the resignation of Mr. James Sapirstein. Until April 9, 2020, Mr. Jones was the vice president global pharmaceutical and medical OTC at Purisys. Mr. Jones received approval to join the Board of the Company from Purisys subject to (i) Mr. Jones’ recusal from Company discussions about Noramco or Purisys, and (ii) Mr. Jones’ relinquishment of responsibility of the Company’s account representation to the chief executive officer and president of Purisys. As of April 9, 2020, Mr. Jones was no longer employed by and has accepted a severance package from Purisys. Periodically, Dr. Lippa and Mr. Margolis make short term advances to the Company or are repaid advances previously made. As of December 31, 2018, December 31, 2019 and June 30, 2010, the amount due to Dr. Lippa was \$18,648. As of December 31, 2018, December 31, 2019 and June 30, 2020, amounts due to Mr. Margolis were \$5,500, \$5,500 and 6,500 respectively. Short term advances are repaid without interest. On April 22, 2020, advances to the Company made by Mr. Margolis were repaid to Mr. Margolis, the total repayment being \$10,775.

On April 9, 2018, Dr. Lippa and Dr. James S. Manuso, the Company’s then Chief Executive Officer and Vice Chairman of the Board, advanced \$50,000 each, for a total of \$100,000, to the Company for working capital purposes. Each note was payable on demand after June 30, 2018. Each note was subject to a mandatory exchange provision that provided that the principal amount of the note would be mandatorily exchanged into a board approved offering of the Company’s securities, if such offering held its first closing on or before June 30, 2018 and the amount of proceeds from such first closing was at least \$150,000, not including the principal amounts of the notes that would be exchanged, or \$250,000 including the principal amounts of such notes. Upon such exchange, the notes would be deemed repaid and terminated. Any accrued but unpaid interest outstanding at the time of such exchange will be (i) repaid to the note holder or (ii) invested in the offering, at the note holder’s election. A first closing did not occur on or before June 30, 2018. Dr. Lippa agreed to exchange his note into the board approved offering that had its initial closing on September 12, 2018. Accrued interest on Dr. Lippa’s note was not exchanged. As of September 30, 2020, Dr. James S. Manuso had not exchanged his note. For the fiscal years ended December 31, 2018 and 2017, \$11,268 and \$7,760 was charged to interest expense with respect to Dr. Lippa’s notes, respectively. For the fiscal years ended December 31, 2018 and 2017, \$12,769 and \$7,760 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 his executive officer positions and as a member of the Board. Of the \$12,769 of interest expense noted above, \$3,564 was incurred while Dr. Manuso was no longer an officer.

In connection with a 2017 Unit Offering, Aurora Capital LLC (“Aurora”) served as a placement agent and earned \$20,000 fees and 8,000 placement agent common stock warrants. All but \$5,000 of these fees were unpaid as of September 30, 2020 and have been accrued in accounts payable and accrued expenses and charged against additional paid-in capital as of September 30, 2020. The placement agent common stock warrants were valued at \$27,648 and were accounted for in additional paid-in capital as of March 31, 2017 which value has not been adjusted through September 30, 2020. As of June 30, 2020, a total of \$105,000 was due to Aurora, of which an aggregate of \$5,000 was paid on August 5th and August 6th, 2020.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the beneficial ownership of the Company’s Common Stock as of September 30, 2020, the latest date practicable for the preparation of this table, by (i) each person known by the Company to be the beneficial owner of more than 5% of the outstanding Common Stock, (ii) each of the Company’s directors as of September 30, 2020, (iii) each of the Company’s named executive officers, and (iv) all of the Company’s executive officers and directors as a group. Except as indicated in the footnotes to this table, the Company believes that the persons named in this table have sole voting and investment power with respect to the shares of Common Stock indicated. In computing the number and percentage ownership of shares beneficially owned by a person, shares of Common Stock that a person has a right to acquire within sixty (60) days of September 30, 2020, pursuant to options, warrants or other rights are considered as outstanding, while these shares are not considered as outstanding for computing the percentage ownership of any other person or group.

Directors, Officers and 5% Stockholders	Shares Beneficially Owned	
	Number	Percentage
Arnold Lipppa Family Trust of 2007	225,213,997(a)	32.71%
Jeff Margolis Trusts	209,026,631(b)	30.72%
Directors and Officers:		
Jeff E. Margolis	209,026,631(b)	30.72%
Arnold S. Lipppa, Ph.D.	1,416(c)	0.00%
Timothy Jones	25,818,126(d)	4.31%
Kathryn MacFarlane	12,640,421(e)	2.14%
Richard Purcell	5,263,077(f)	0.90%
David Dickason	2,000,000(g)	0.34%
All directors and current executive officers as a group (6 persons)	254,749,671	50.03%

- (a) All of these holdings were acquired by Dr. Arnold Lipppa and subsequently transferred to the Trust, or are held by an entity owned by the Trust. Dr. Lipppa is neither the trustee nor the beneficiary of the Trust. Linda Lipppa, his wife, is a beneficiary of the Trust. Included in the total are 109,786,458 warrants to purchase an equal number of shares of common stock ignoring any blocker provisions that may prevent exercise, resulting from the conversion of the trust’s Series H Preferred Stock options to acquire an additional 810,365 shares of Common Stock.
- (b) All of these holdings were acquired by Mr. Margolis and subsequently transferred to six family trusts. Mr. Margolis’ wife is the trustee of three trusts. Mr. Margolis is the trustee of three trusts. Mr. Margolis is not a beneficiary of any of the trusts for which his wife is trustee. Mr. Margolis is the beneficiary of one trust of which he is also the trustee. The one trust of which Mr. Margolis is both the beneficiary and the trustee owns 3,076 shares of common stock and 43,076 options. All other shares of common stock, options warrants are owned by one or more of the other five trusts. In the aggregate, the holdings of the trusts include: (i) 106,451,947 shares of Common Stock, (ii) options to acquire an additional 664,457 shares of Common Stock, (iii) warrants exercisable into 101,905,382 shares of Common Stock , resulting from the conversion of the trusts’ Series H Preferred Stock on September 30, 2020 (iv) the 4,845 warrants to purchase shares of common received as an owner of Aurora Capital LLC from the warrants Aurora received as a placement agent in the sale of the Company’s Common Stock and Warrant Financing.

- (c) Dr. Lipa's holdings include: (i) 598 shares of Common Stock, and (ii) 818 warrants to purchase shares of Common Stock. In addition, Dr. Lipa no longer beneficially owns many of the shares of the Company that were initially awarded to him because he has transferred these shares into family trusts, of which he is neither the trustee nor the beneficiary, including the Arnold Lipa Family Trust of 2007 as noted in footnote (a) above. In addition, Dr. Lipa has been awarded options to acquire an additional 15,385 shares of Common Stock which have been assigned to another family trust for the benefit of other family members. Dr. Lipa is neither the trustee nor the beneficiary of that trust.
- (d) Timothy Jones was appointed to the Board on January 28, 2020. Mr. Jones was appointed President and Chief Executive Officer on May 6, 2020. Mr. Jones owns 4,409,063 shares of Common Stock resulting from the conversion of Mr. Jones' Series H Preferred Stock and also owns options exercisable into 17,000,000 shares of Common Stock.
- (e) Dr. MacFarlane's holdings include: (i) 6,154 shares of Common Stock, and (ii) options to purchase 12,634,267 shares of Common Stock.
- (f) Mr. Purcell's holdings include: (i) 6,154 shares of Common Stock, and (ii) options to purchase 5,256,923 shares of Common Stock.
- (g) Mr. Dickason's holdings include options to purchase 2,000,000 shares of Common Stock.

The Company is not aware of any arrangements that may at a subsequent date result in a change of control of the Company.

WHERE YOU CAN FIND MORE INFORMATION

We are not required to deliver an annual report to our stockholders unless our directors are elected at a meeting of our stockholders or by written consents of our stockholders. If our directors are not elected in such manner, we are not required to deliver an annual report to our stockholders and will not voluntarily send an annual report.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Such filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>.

We have filed with the SEC a registration statement on Form S-1 under the Securities Act of 1933 with respect to the securities offered under this prospectus. This prospectus, which forms a part of that registration statement, does not contain all information included in the registration statement. Certain information is omitted, and you should refer to the registration statement and its exhibits.

Our filings and the registration statement can also be reviewed by accessing the SEC's website at <http://www.sec.gov>.

The information in this prospectus is not complete and may be changed. The Selling Stockholder may not sell these securities until the registration statement filed with the SEC is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

**To the Stockholders and Board of Directors
RespireRx Pharmaceuticals Inc. and Subsidiary**

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of RespireRx Pharmaceuticals Inc. and Subsidiary (the “Company”) as of December 31, 2019 and 2018, the related consolidated statements of operations, stockholders’ equity (deficiency), and cash flows for each of the years then ended, and the related notes (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2019 and 2018, and the consolidated results of its operations and its cash flows for each of the years then ended, in conformity with generally accepted accounting principles generally accepted in the United States of America.

Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the consolidated financial statements, the Company has experienced recurring losses, negative cash flows from operations, has limited capital resources, and a net stockholders’ deficiency. These matters raise substantial doubt about the Company’s ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

HASKELL & WHITE LLP

We have served as the Company’s auditor since 2004.

Irvine, California
April 14, 2020

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

CONSOLIDATED BALANCE SHEETS

	December 31,	
	2019	2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 16,690	\$ 33,284
Advance payment on research contract	-	48,912
Prepaid expenses, including current portion of long-term prepaid insurance of \$10,586 at December 31, 2019 and \$14,945 at December 31, 2018	28,638	38,880
	<u>45,328</u>	<u>121,076</u>
Total current assets	45,328	121,076
Long-term prepaid insurance, net of current portion of \$10,586 and \$14,945 at December 31, 2019 and December 31, 2018 respectively	-	3,114
	<u>-</u>	<u>3,114</u>
Total assets	<u>\$ 45,328</u>	<u>\$ 124,190</u>
LIABILITIES AND STOCKHOLDERS' DEFICIENCY		
Current liabilities:		
Accounts payable and accrued expenses, including \$476,671 and \$400,229 payable to related parties at December 31, 2019 and 2018, respectively	\$ 3,772,030	\$ 3,303,120
Accrued compensation and related expenses	2,083,841	1,304,434
Convertible notes payable, currently due and payable on demand, including accrued interest of \$113,304 and \$62,635 at December 31, 2019 and 2018, respectively, (of which \$43,666, including accrued interest of \$18,666, was deemed to be in default at December 31, 2019) (Note 4)	551,591	239,666
Note payable to SY Corporation, including accrued interest of \$363,280 and \$315,307 at December 31, 2019 and 2018, respectively (payment obligation currently in default – Note 4)	766,236	744,441
Notes and advances payable to officers, including accrued interest of \$35,388 and \$25,116 at December 31, 2019 and 2018, respectively (Note 4)	142,238	102,716
Notes payable to former officer, including accrued interest of \$41,977 and \$26,561 as of December 31, 2019 and December 31, 2018, respectively (Note 4)	169,577	154,161
Other short-term notes payable	4,634	8,907
	<u>7,490,147</u>	<u>5,857,445</u>
Total current liabilities	7,490,147	5,857,445
Commitments and contingencies (Note 9)		
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: 37,500; common shares issuable upon conversion at 0.00030 common shares per Series B share: 11	21,703	21,703
Common stock, \$0.001 par value; shares authorized: 65,000,000; shares issued and outstanding: 4,175,072 and 3,872,076 at December 31, 2019 and 2018, respectively	4,175	3,872
Additional paid-in capital	159,038,388	158,635,222
Accumulated deficit	(166,509,085)	(164,394,052)
	<u>(7,444,819)</u>	<u>(5,733,225)</u>
Total stockholders' deficiency	(7,444,819)	(5,733,225)
Total liabilities and stockholders' deficiency	<u>\$ 45,328</u>	<u>\$ 124,190</u>

See accompanying notes to consolidated financial statements and
report of independent registered public accounting firm.

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,	
	2019	2018
Operating expenses:		
General and administrative, including \$485,332 and \$740,975 to related parties for the years ended December 31, 2019 and 2018, respectively	\$ 1,137,175	\$ 1,488,238
Research and development, including \$490,908 and \$495,638 to related parties for the years ended December 31, 2019 and 2018, respectively	599,329	688,286
Total operating costs and expenses	1,736,504	2,176,524
Loss from operations	(1,736,504)	(2,176,524)
Loss on extinguishment of debt and other liabilities in exchange for equity	-	(166,382)
Interest expense, including \$60,135 and \$42,821 to related parties for the years ended December 31, 2019 and 2018, respectively	(404,661)	(136,243)
Foreign currency transaction (loss) gain	26,132	(112,641)
Net loss	\$ (2,115,033)	\$ (2,591,790)
Net loss per common share - basic and diluted	\$ (0.54)	\$ (0.77)
Weighted average common shares outstanding - basic and diluted	3,908,479	3,351,105

See accompanying notes to consolidated financial statements and
report of independent registered public accounting firm.

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONSOLIDATED STATEMENT OF STOCKHOLDERS' DEFICIENCY

Years Ended December 31, 2019 and 2018

	Series B Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficiency
	Shares	Amount	Shares	Par Value			
Balance at 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 for services	-	-	-	-	29,248		29,248
Fair value of common stock options issued in exchange for accrued compensation and accounts payable					335,529		335,529
Common stock issued related to extinguishment of convertible notes	-	-	284,358	284	318,236		318,520
Sale of common stock units in private placement, net of escrow fees of \$5,000	-	-	191,194	191	195,559		195,750
Issuance of common stock units in exchange for note payable to officer	-	-	47,620	48	49,952		50,000
Fair value of warrants issued in connection issuance of units in exchange for note payable to officer					49,975		49,975
Issuance of common stock to patent counsel			283,643	284	198,266		198,550
Fair value of original issue discount associated with warrants issued with convertible notes					36,347		36,347
Net Loss						\$ (2,591,790)	\$ (2,591,790)
Balance at December 31, 2018	37,500	\$ 21,703	3,872,076	\$ 3,872	\$ 158,635,222	\$(164,394,052)	\$ (5,733,255)
Warrants issued with respect to convertible notes issued from January through March 2019					45,812		45,812
Common stock issued related to convertible notes			17,500	17	3,316		3,333
Discounts associated with convertible note issuances from April through November 2019					329,019		329,019
Common stock issued as partial settlement of convertible notes issued from April through May 2019			285,496	286	25,019		25,305
Net Loss						\$ (2,115,033)	\$ (2,115,033)
Balance at December 31, 2019	37,500	\$ 21,703	4,175,072	\$ 4,175	\$ 159,038,388	\$(166,509,085)	\$ (7,444,819)

See accompanying notes to consolidated financial statements and report of independent registered public accounting firm.

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,	
	2019	2018
Cash flows from operating activities:		
Net loss	\$ (2,115,033)	\$ (2,591,790)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of debt discounts related to convertible notes payable	215,575	8,378
Costs associated with convertible note conversion paid with common stock	750	
Loss on extinguishment of debt	-	105,254
Loss on extinguishment of other liabilities	-	11,154
Loss on exchange of officer note	-	49,974
Stock-based compensation and fees included in -		
General and administrative expenses	-	14,248
Research and development expenses	-	15,000
Foreign currency transaction loss (gain)	(26,132)	112,641
Changes in operating assets and liabilities:		
(Increase) decrease in -		
Prepaid expenses and advanced clinical research payments	13,355	18,962
Increase (decrease) in -		
Accounts payable and accrued expenses	524,324	703,682
Accrued compensation and related expenses	779,407	1,025,484
Accrued interest payable	120,009	99,645
Net cash used in operating activities	<u>(487,745)</u>	<u>(427,368)</u>
Cash flows from financing activities:		
Proceeds from sale of common stock units and issuance of restricted stock, net of fees	-	195,750
Proceeds from officer notes	22,751	100,000
Proceeds from issuance of notes payable	478,150	80,000
Capitalized note costs	(29,750)	
Net cash provided by financing activities	<u>471,151</u>	<u>375,750</u>
Cash and cash equivalents:		
Net decrease	(16,594)	(51,618)
Balance at beginning of period	<u>33,284</u>	<u>84,902</u>
Balance at end of period	<u>\$ 16,690</u>	<u>\$ 33,284</u>

(Continued)

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

**CONSOLIDATED STATEMENTS OF CASH FLOWS
(Continued)**

	Years Ended December 31,	
	2019	2018
Supplemental disclosures of cash flow information:		
Cash paid for -		
Interest	\$ 5,130	\$ 3,345
Non-cash financing activities:		
10% convertible notes payable, including accrued interest of \$62,267 exchanged for common stock	\$ -	\$ 213,266
Principal on convertible notes payable paid with common stock	\$ 24,554	\$ -
Conversion fees paid with common stock upon principal payment on convertible notes payable	\$ 750	\$ -
Accounts payable and accrued expenses extinguished with common stock options	\$ -	\$ 138,273
Accrued compensation extinguished with option to purchase common stock options	\$ -	\$ 200,350
Officer note payable, exchanged for common stock and warrants	\$ -	\$ 50,000
Short-term note payable issued in connection with financing of directors and officers insurance policy	\$ 61,746	\$ 63,750
Short-term note payable issued in connection with financing of clinical trial and other office insurance policies	\$ 9,322	\$ 9,322
Fair value of common stock issued to service provider	\$ -	\$ 198,550

See accompanying notes to consolidated financial statements and
report of independent registered public accounting firm.

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

Years Ended December 31, 2019 and 2018

1. Organization and Basis of Presentation

Organization

RespireRx Pharmaceuticals Inc. (“RespireRx,” the “Company,” “we” or “our” includes our wholly-owned subsidiary, Pier Pharmaceuticals, Inc., unless the context indicates otherwise) 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 previously developing potential applications for respiratory disorders, RespireRx has retained and expanded its neuromodulator intellectual property and data with respect to neurological and psychiatric disorders and is considering developing certain potential products in this platform, if it is able to obtain additional financing and/or strategic relationships.

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

In March 2020, RespireRx and UWM Research Foundation, an affiliate of the University of Wisconsin-Milwaukee, entered into an option agreement (“UWMRF Option Agreement”) pursuant to which RespireRx has a six-month option to license the identified intellectual property pursuant to license terms substantially in the Form of a Patent License Agreement (“UWMRF License Agreement”) that is attached to the UWMRF Option Agreement as Appendix I. The UWMRF License Agreement, if it becomes effective, will expand the Company’s neuromodulator program which has historically included the Company’s AMPAkinine program to include a GABA-A program as well. See Note 10. Subsequent Events.

Basis of Presentation

The consolidated financial statements are of RespireRx and its wholly-owned subsidiary, Pier.

2. Business

The mission of the Company is to develop innovative and revolutionary treatments to combat disorders 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: (i) cannabinoids, including dronabinol (a synthetic form of Δ9-THC) that act upon the nervous system’s endogenous cannabinoid receptors and (ii) neuromodulators, which we now call EndeavourRx, including (a) AMPAkinines, proprietary compounds that positively modulate AMPA-type glutamate receptors to promote neuronal function and (b) positive allosteric modulators (“PAMs”) of the gamma-aminobutyric acid subunit A (“GABA-A”) receptors that are the subject of an option agreement dated March 2, 2020 between the Company and the UWM Research Foundation, Inc. (“UWMRF”), an affiliate of the University of Wisconsin-Milwaukee. See Note 10. Subsequent Events.

Cannabinoids

With respect to the cannabinoid platform, two Phase 2 clinical trials have been completed demonstrating the ability of dronabinol to statistically significantly reduce the symptoms of OSA, which management believes is potentially a multi-billion-dollar market. Subject to raising sufficient financing (of which no assurance can be provided), 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.

With the cannabinoid platform, we plan to create a wholly-owned private subsidiary of RespireRx (“Newco”, official name not yet determined) with its own management team and board of directors.

Neuromodulators – EndeavourRx - AMPAkines and GABA-A

Neuromodulators are chemicals released by neurons that enable neurons to communicate with one another. This process is called neurotransmission. Neurons release neurotransmitters that attach to a very specific protein structure, termed a receptor, residing on an adjacent neuron. This neurotransmission process can either increase or decrease the excitability of the neuron receiving the message.

Neuromodulators do not act directly at the neurotransmitter binding site, but instead act at accessory sites that enhance (Positive Allosteric Modulators – “PAMs”) or reduce (Negative Allosteric Modulators – “NAMs”) the actions of neurotransmitters at their primary receptor sites. Neuromodulators have no intrinsic activity of their own. We believe that neuromodulators offer the possibility of developing “kinder and gentler” neuropharmacological drugs with greater pharmacological specificity and reduced side effects compared to present drugs, especially in disorders for which there is a significant unmet or poorly met clinical need such as Attention Deficit Hyperactivity Disorder (“ADHD”), Autism Spectrum Disorder (“ASD”), Fragile X Syndrome (“FSX”) and CNS-driven disorders. We are focused presently on developing drugs that act as positive allosteric modulators (“PAM”) at the AMPA and GABA-A receptors.

Building upon our AMPAkin platform as a foundation, we also are planning the establishment of a second business unit, which we now call collectively with the AMPAkines, EndeavourRx, that will focus on developing novel neuromodulators for disorders due to alterations in neurotransmission. Through an extensive series of translational studies over a number of years, but numerous researchers and from the cellular level up to human Phase 2 clinical trials, selected AMPAkines have demonstrated target site engagement and positive results in patients with Attention Deficit Hyperactivity Disorder (see below).

Through an extensive AMPAkin 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 may have clinical application in the treatment of CNS-driven neurobehavioral and cognitive disorders, spinal cord injury, neurological diseases, and certain orphan indications. From our AMPAkin 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 successfully completed a Phase 2 trial demonstrating the ability to statistically 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.

In order to expand the asset base of EndeavourRx, we have entered into an option agreement with UWMRF whereby RespireRx has a six-month option commencing on March 2, 2020, to license, certain intellectual property regarding chemical compounds that act as positive allosteric modulators (“PAMs”) at certain specific receptors for gamma-amino-butyric acid type A (“GABA-A”), a major inhibitory transmitter in the brain (see Subsequent Events). Certain of these compounds have shown impressive activity in a broad range of animal models of refractory/resistant epilepsy and other convulsant disorders, as well as in brain tissue samples obtained from epileptic patients in pre-clinical research conducted at the University of Wisconsin-Milwaukee by Drs. James Cook and Jeffrey Witkin among others and at collaborating institutions. Epilepsy is a chronic and highly prevalent neurological disorder that affects millions of people world-wide. While many anticonvulsant drugs have been approved to decrease seizure probability, seizures are not well controlled and, in as many as 60-70% of patients, existing drugs are not efficacious at some point in the disease progression. We believe that the medical and patient community are in clear agreement that there is desperate need for improved antiepileptic drugs. In addition, these compounds have shown positive activity in animal models of migraine, inflammatory and neuropathic pain, as well as other areas of interest. Because of their GABA receptor subunit specificity, the compounds have a greatly reduced liability to produce sedation, motor incoordination, memory impairments and tolerance, side effects commonly associated with non-specific GABA PAMs, such as benzodiazepines.

Our major challenge has been to raise substantial equity or equity-linked financing to support research and development programs for our two drug platforms, while minimizing the dilutive effect to pre-existing stockholders. At present, we believe that we are hindered primarily by our public corporate structure, our OTCQB listing, limited float and low market capitalization as a result of our low stock price. For this reason, RespireRx is considering an internal restructuring plan that contemplates spinning out our two drug platforms into separate operating businesses.

We believe that by creating EndeavourRx and ResolutionRx, it may be possible, through separate finance channels, to optimize the asset values of both the cannabinoid platform and the neuromodulation platform.

Going Concern

The Company’s 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 \$2,115,033 and \$2,591,790 for the fiscal years ended December 31, 2019 and 2018, respectively, and negative operating cash flows of \$487,745 and \$427,368 for the fiscal years ended December 31, 2019 and 2018, respectively. The Company also had a stockholders’ deficiency of \$7,444,819 at December 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, 2019, 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 consolidated financial statements are prepared in accordance with United States generally accepted accounting principles (“GAAP”) and include the financial statements of RespireRx and its wholly-owned subsidiary, Pier. Intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

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

Concentrations of Credit Risk

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

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, 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.

Deferred Financing Costs

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

Costs related to abandoned debt or equity financings are charged to operations in the period of abandonment. Costs related to completed equity financings are netted against the proceeds.

Capitalized Financing Costs

The Company presents debt issuance costs related to debt liability in its consolidated balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with the presentation for debt discounts.

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, commitment shares 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.

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 consolidated statement of operations in the amount of the difference in the period in which such transaction occurs.

Prepaid Insurance

Prepaid insurance represents the premium paid in March 2019 for directors' and officers' insurance as well as the amount paid in April 2019 for office-related insurances and clinical trial coverage. Directors' and officers' insurance tail coverage, purchased in March 2013 and which is a seven-year policy, is being amortized on a straight-line basis over the policy period and all amounts due within one year are reclassified as current prepaid insurance. The amount amortizable in the ensuing twelve-month period is recorded as prepaid insurance in the Company's consolidated balance sheet at each reporting date and amortized to the Company's consolidated statement of operations for each reporting period. Amounts due after the ensuing year are recorded as long-term prepaid insurance.

Stock-Based Awards

The Company periodically issues common stock and stock options to officers, directors, Scientific Advisory Board members, consultants and other 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 and directors by measuring the value of the 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.

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

Stock options granted to members of the Company's outside consultants and other vendors are valued on the grant date. As the stock options vest, the Company recognizes this expense over the period in which the services are provided.

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

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

During the fiscal year ended December 31, 2019, there were no stock options granted to officers, directors, Scientific Advisory Board members, consultants or other vendors. During fiscal year ended December 31, 2018, there were stock grants totaling 283,643 shares of common stock to designees of one vendor with a value on the date of the grant of \$198,550 which amount paid \$198,550 of account payable to that vendor. There was no gain or loss on such stock grant.

For stock options requiring an assessment of value during the fiscal years ended December 31, 2019 and 2018, the fair value of each stock option award was estimated using the Black-Scholes option-pricing model using the following assumptions:

	2019	2018
Risk-free interest rate	-%	2.64-2.89%
Expected dividend yield	-%	0%
Expected volatility	-%	186.07-222.64%
Expected life at date of issuance	-	5 years

The expected life is estimated to be equal to the term of the common stock options issued in 2018.

The Company recognizes the fair value of stock-based awards in general and administrative costs and in research and development costs, as appropriate, in the Company’s 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 fiscal years ended December 31, 2019 and 2018.

There were no warrants issued as compensation or for services during the fiscal years ended December 31, 2019 and 2018 requiring such assessment. Warrants, if issued for services, are typically issued to placement agents or brokers for fund raising services and are not issued from any of the Company’s stock and option plans, from which options issued to non-employees for services are typically issued.

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 December 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 December 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 consolidated statements of operations.

Research and Development

Research and development costs include compensation paid to management directing the Company’s research and development activities, including but not limited to compensation paid to our Interim Chief Executive Officer and Interim President who is also our Chief Scientific Officer 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.

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 consolidated balance sheet, with a corresponding charge to research and development costs in the Company’s 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 consolidated balance sheet, with a corresponding charge to research and development costs in the Company’s 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 are charged to 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 income (loss) attributable to common stockholders consists of net income or loss, as adjusted for actual and deemed preferred stock dividends declared, amortized or accumulated.

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

At December 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.

	December 31,	
	2019	2018
Series B convertible preferred stock	11	11
Convertible notes payable	7,017,896	16,319
Common stock warrants	2,191,043	1,783,229
Common stock options	4,344,994	4,344,994
Total	13,553,944	6,144,553

Reclassifications

Certain comparative figures in 2018 have been reclassified to conform to the current year's presentation. These reclassifications were immaterial, both individually and in the aggregate.

Recent Accounting Pronouncements

In March 2020, The FASB issued Accounting Standards Update No. 2020-03, Codification Improvements to Financial Instruments. There are seven issues addressed in this update. Issues 1 – 5 were clarifications and codifications of previous updates. Issue 3 relates only to depository and lending institutions and therefore would not be applicable to the Company. Issue 6 was a clarification on determining the contractual term of a net investment in a lease for purposes of measuring expected credit losses, an issue not applicable to the Company. Issue 7 relates to the regaining control of financial assets sold and the recordation of an allowance for credit losses. The amendment related to issues 1, 2, 4 and 5 become immediately upon adoption of the update. Issue 3 becomes effective for fiscal years beginning after December 15, 2019. Issues 6 and 7 become effective on varying dates that relate to the dates of adoption other updates. Management's initial analysis is that it does not believe the new guidance will substantially impact the Company's financial statements.

In November 2019, the FASB issued Accounting Standards Update No. 2019-08, "Compensation-Stock Compensation (Topic 718) and Revenue from Contracts with Customers (Topic 606)-Codification Improvements-Share-Based Consideration Payable to a Customer". The update provides measurement guidance that when share-based consideration is granted to a customer, it is treated as a reduction in the transaction price and that the amount recorded as the reduction should be based on the grant-date fair value of the share-based payment award. For entities that have not yet adopted the amendments in Accounting Standards Update 2018-07, the amendments of this update are effective for public entities in fiscal years beginning after December 14, 2019, and interim periods within those fiscal years. Management's initial analysis is that it does not believe the new guidance will substantially impact the Company's financial statements.

In August 2018, the FASB issued Accounting Standards Update No. 2018-13, "Fair Value Measurement (Topic 820), Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement." The amendments in this update modify the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurement. These amendments affect the disclosures of the fair value of financial instruments. See Note 3. Summary of Significant Account Policies – *Fair Value of Financial Instruments*. The amendments in this update are effective for public business entities for fiscal years beginning after December 15, 2019, including interim periods within that fiscal year. Management has not concluded its evaluation of the guidance. Its initial analysis is that it does not believe the new guidance will substantially impact the Company's financial statements.

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.

4. Notes Payable

Convertible Notes Payable

On November 4, 2019, the Company issued a convertible note (the "November 2019 Convertible Note") bearing interest at 10% per year. The maturity amount is \$170,000 and it matures on November 4, 2020. The Company incurred debt issuance costs of

\$14,000, which included \$8,500 of lender legal fees and \$5,500 in placement agency fees paid to Aurora Capital LLC, a registered broker-dealer and an affiliate of the Company. The transaction included a \$13,600 original issue discount. The transaction did not include any warrants or commitment shares. The net proceeds to the Company directly from the lender was \$147,900, from which the Company then directly paid the \$5,500 placement agency fee for final net proceeds of \$142,400. Subject to certain limitations and adjustments as described in the November 2019 Convertible Note, the holder may convert the November 2019 Convertible Note at a fixed conversion price of \$0.50 per share of common stock, provided that from the date that is six months after the issuance date, the conversion price shall be 60% multiplied by the lowest closing price of the common stock during the twenty (20) consecutive trading days prior to conversion. The Company evaluated all of the terms of the November 2019 Convertible Note and determined that, in accordance with ASC 815, there were no derivatives to be bifurcated or separately valued. However, there were three features of the November 2019 Convertible Note and the related securities purchase agreement that required valuation. They were: (i) the debt issuance costs of \$14,000, (ii) the intrinsic value of the beneficial conversion feature, and (iii) the original issue discount of \$13,600. The amount to be recorded initially as the amount of the November 2019 Convertible Note was calculated by determining the relative values as percentages of the net proceeds of the November 2019 Convertible Note (\$142,400), the beneficial conversion feature (\$142,400) The debt issuance costs, original issue discount and the amount recorded as the intrinsic value of the beneficial conversion feature each are being amortized to interest expense on a straight-line basis over the life the November 2019 Convertible Note.

The table below provides a summary of the November 2019 Convertible Note as of December 31, 2019.

Principal amount of note payable	\$ 170,000
Debt discounts, net of amortization of \$26,940	(143,060)
Accrued coupon interest	2,701
	<u>\$ 29,641</u>

On October 22, 2019, the Company issued a convertible note (the “October 2019 Convertible Note”) bearing interest at 10% per year. The maturity amount is \$60,000 and it matures on July 22, 2020. The Company incurred debt issuance costs of \$3,750 for lender legal fees and due diligence fees. The transaction included a \$1,750 original issue discount, a warrant to purchase 175,000 shares of common stock and 10,000 Commitment Shares (as such term is defined in the definitive transaction documents), which were issued in connection with the October 2019 Convertible Note. The net proceeds to the Company were \$54,500. Subject to certain limitations and adjustments as described in the October 2019 Convertible Note, the holder may convert the October 2019 Convertible Note at a fixed conversion price of \$0.50 per share of common stock, provided that from the date that is six months after the issuance date, the conversion price shall be 60% multiplied by the lowest trading price of the common stock during the twenty (20) consecutive trading days prior to conversion considering only trades of 100 shares of common stock or more. The Company evaluated all of the terms of the October 2019 Convertible Note and determined that, in accordance with ASC 815, there were no derivatives to be bifurcated or separately valued. However, there were five features of the October 2019 Convertible Note and the related securities purchase agreement that required valuation. They were: (i) the debt issuance costs of \$3,750, (ii) the intrinsic value of the beneficial conversion feature, (iii) the value of the warrant, (iv) the original issue discount of \$1,750, and (v) the value of the Commitment Shares. The Company valued the warrant using the Black-Scholes valuation method utilizing the following assumptions: (i) exercise price of \$0.50, (ii) stock price of \$0.31, (iii) life of five years, (iv) five-year risk free rate of 1.60% and (v) volatility of 476.01% that results in the value of one warrant of \$0.310 and a total warrant value of \$54,250. The amount to be recorded initially as the amount of the October 2019 Convertible Note was then calculated by determining the relative values as percentages of the net proceeds of the October 2019 Convertible Note (\$54,500), and the warrant (46.23% or \$27,738) and the Commitment Shares (2.64% or \$1,585). The intrinsic value of the beneficial conversion feature was then calculated based on the value attributed to the October 2019 Convertible Note. The debt issuance costs, original issue discount and the amount recorded as the intrinsic value of the beneficial conversion feature each are being amortized to interest expense on a straight-line basis over the life the October 2019 Convertible Note.

The table below provides a summary of the October 2019 Convertible Note as of December 31, 2019.

Principal amount of note payable	\$ 60,000
Debt discounts, net of amortization of \$16,490	(47,512)
Accrued coupon interest	1,167
	<u>\$ 13,655</u>

On August 19, 2019, the Company issued a convertible note (the “August 2019 Convertible Note”) bearing interest at 10% per year. The maturity amount is \$55,000 and it matures on May 19, 2020. The Company incurred debt issuance costs of \$2,500 for lender legal fees. The transaction included a \$5,000 original issue discount, a warrant to purchase 150,000 shares of common stock and 7,500 Commitment Shares (as such term is defined in the definitive transaction documents), which were issued in connection with the August 2019 Convertible Note. The net proceeds to the Company were \$47,500. Subject to certain limitations and adjustments as described in the August 2019 Convertible Note, the holder may convert the August 2019 Convertible Note at a fixed conversion price of \$0.50 per share of common stock, provided that from the date that is six months after the issuance date, the conversion price shall be the lower of (a) \$0.50 or (b) 60% multiplied by the lowest closing price of the common stock during the twenty (20) consecutive trading days prior to conversion. The Company evaluated all of the terms of the August 2019 Convertible Note and determined that, in accordance with ASC 815, there were no derivatives to be bifurcated or separately valued. However, there were five features of the August 2019 Convertible Note and the related securities purchase agreement that required valuation. They were: (i) the debt issuance costs of \$2,500, (ii) the intrinsic value of the beneficial conversion feature, (iii) the value of the warrant, (iv) the original issue discount of \$5,000, and (v) the value of the Commitment Shares. The Company amortizes each of these five on a straight-line basis over the life of the August 2019 Convertible Note. The Company valued the warrant using the Black-Scholes valuation method utilizing the following assumptions: (i) exercise price of \$0.50, (ii) stock price of \$0.65, (iii) life of five years, (iv) five-year risk free rate of 1.47% and (v) volatility of 175.5% that results in the value of one warrant of \$0.623 and a total warrant value of \$93,450. The amount to be recorded initially as the amount of the August 2019 Convertible Note was then calculated by determining the relative values as percentages of the net proceeds of the August 2019 Convertible Note (\$47,500) and the warrant (64.08% or \$30,440) and the Commitment Shares (3.34% or \$1,588). The intrinsic value of the beneficial conversion feature was then calculated based on the value attributed to the August 2019 Convertible Note. The debt issuance costs, original issue discount and the amount recorded as the intrinsic value of the beneficial conversion feature each are being amortized to interest expense on a straight-line basis over the life the August 2019 Convertible Note.

The table below provides a summary of the August 2019 Convertible Note as of December 31, 2019.

Principal amount of note payable	\$	55,000
Debt discounts, net of amortization of \$27,781		(27,218)
Accrued coupon interest		2,034
	\$	<u>29,816</u>

On May 17, 2019, the Company issued a master convertible note (the “May 2019 Convertible Note”) issuable in tranches, bearing interest at 10% per year, bearing a maximum maturity amount of \$150,000. The first tranche has a maturity amount of \$50,000 and matures on May 17, 2020. There was a stated original issue discount of \$5,000 and the Company incurred debt issuance costs of \$2,000 for lender legal fees. The net proceeds to the Company were \$43,000. Subject to certain limitations and adjustments as described in the May 2019 Convertible Note, the holder may convert from the date of issuance to the maturity date, part or all of the May 2019 Convertible Note, inclusive of accrued interest, into the Company’s common stock at a variable conversion price that is the lesser of (i) lowest trading price as such term is defined in the May 2019 Convertible Note (the lowest closing bid price) in the twenty five day trading period prior to the date of the May 2019 Convertible Note (which price is now fixed at \$0.25, the closing bid price on May 16, 2019), or (ii) the variable conversion price (as defined in the May 2019 Convertible Note) which is 61% of the market price (as defined in the May 2019 Convertible Note). The market price is the lowest trading price (closing bid) in the twenty-five day trading day period up to the day prior to the conversion. If at any time while the May 2019 Convertible Note is outstanding, the conversion price is equal to or lower than \$0.35, then an additional eleven percent (11%) discount is to be factored into the conversion price until the May 2019 Convertible Note is no longer outstanding (resulting in a discount rate of 50% assuming no other adjustments are triggered). The lowest trading price on the date of inception of the May 2019 Convertible Note (\$0.25) and the lowest market price were both below \$0.35, the effective conversion rate on the inception date was \$0.125. Therefore, on the inception date, the first tranche would have converted into 400,000 shares of the Company’s common stock. The Company evaluated all of the terms of the May 2019 Convertible Note and determined that, in accordance with Accounting Standard Codification (ASC) 815, there were no derivatives to be bifurcated or separately valued. However, there were four features of the May 2019 Convertible Note, the related securities purchase agreement and the warrant that was issued in connection therewith that required valuation. They were: (i) the original issue discount of \$5,000, (ii) the debt issuance costs of \$2,000, (iii) the beneficial conversion feature and (iv) the value of the warrant. The Company evaluated (iii) the intrinsic value of the beneficial conversion feature for a calculated value of \$286,000 ((\$0.84 closing price minus \$0.125 conversion price) x 400,000 shares). The Company calculated the warrant value using the Black-Scholes valuation method, utilizing the following assumptions: (a) exercise price of \$1.18 per share, (b) stock price \$0.84, (c) three year life (d) three year risk free rate of 2.15% and (e) volatility of 210.19% and determined that the value of one warrant was \$0.774 and the total warrant value was \$32,796 for the warrant exercisable into 42,373 shares of the Company’s common stock, par value \$0.001. The amount to be recorded initially as the amount of the May 2019 Convertible Note was then calculated by determining the relative values as percentages of the net proceeds of the May 2019 Convertible Note (\$50,000) and the warrant (\$32,796). The intrinsic value of the beneficial conversion feature was then calculated based on the value attributed to the May 2019 Convertible Note. The original issue discount, debt issuance costs, the intrinsic value of the beneficial conversion feature and proceeds allocated to the value of the warrant are being amortized to interest expense on a straight-line basis over the life the May 2019 Convertible Note. On December 9, 2019 the holder of the May 2019 Convertible Note converted \$4,554 of principal amount into 130,000 shares of the Company’s common stock (\$0.0408 per share).

The table below provides a summary of the May 2019 Convertible Note as of December 31, 2019.

Principal amount of note payable after payment of \$4,554 of principal	\$ 45,446
Debt discounts, net of amortization of \$33,040	(17,181)
Accrued coupon interest	3,108
	<u>\$ 31,373</u>

On April 24, 2019, the Company issued a convertible note (“the April 2019 Convertible Note”) bearing interest at 10% per year. The maturity amount is \$58,500 and matures on the one-year anniversary which is April 24, 2020. The Company incurred debt issuance costs of \$3,500 for lender legal and due diligence fees. There was no stated original issue discount and no warrants were issued in connection with the April 2019 Convertible Note. The net proceeds to the Company were \$55,000. Subject to certain limitations and adjustments as described in the April 2019 Convertible Note, the holder may, from the date that is one hundred eighty (180) days after the issuance to the maturity date, convert part or all of the April 2019 Convertible Note, inclusive of accrued interest, into the Company’s common stock at a variable conversion price that is 61% of the market price as defined in the April 2019 Convertible Note. The market price is the lowest trading price, which in turn is the lowest closing bid price in the twenty (20) trading days prior to conversion. The lowest closing bid price in the twenty (20) day period prior to inception was \$0.65 which would calculate to a \$0.3964 conversion price and further calculate to 147,541 conversion shares to be issued. The Company evaluated all of the terms of the April 2019 Convertible Note and determined that, in accordance with ASC 815, there were no derivatives to be bifurcated or separately valued. However, there were two features of the April 2019 Convertible Note and the related securities purchase agreement that required valuation. They were: (i) the debt issuance costs of \$3,500, and (ii) the intrinsic value of the beneficial conversion feature. The Company evaluated (ii) as the closing price on the inception date minus the conversion price multiplied by the number of conversion shares and determined that the beneficial conversion feature had an intrinsic value of \$44,950 ((\$0.701 closing price minus \$0.3964 conversion price) x 147,541 shares). The debt issuance costs and the amount recorded as the intrinsic value of the beneficial conversion feature are each being amortized to interest expense on a straight-line basis over the life the April 2019 Convertible Note. On November 12, 2019 the holder of the April 2019 Convertible Note converted \$10,000 of principal amount into 81,967 shares of the Company’s common stock (\$0.1220 per share). On October 28, 2019 the same holder converted \$10,000 of principal amount of the April 2019 Convertible Note into 73,529 shares of the Company’s common stock (\$0.1360 per share). (See Note 10. Subsequent Events).

The table below provides a summary of the April 2019 Convertible Note as of December 31, 2019.

Principal amount of note payable after payment of \$20,000 of principal	\$ 38,500
Debt discounts, net of amortization of \$37,762	(10,688)
Accrued coupon interest	4,257
	<u>\$ 32,069</u>

On January 2, 2019, February 27, 2019, March 6, 2019 and March 14, 2019, the Company issued convertible notes (each a “2019 Q1 Convertible Note and collectively, the “2019 Q1 Convertible Notes”) bearing interest at 10% per year. The 2019 Q1 Convertible Notes issued on January 2, 2019 matured on February 28, 2019 with a face amount of \$10,000. The 2019 Q1 Convertible Notes issued on February 27, 2019, March 6, 2019 and March 14, 2019 matured on April 30, 2019 with an aggregate face amount of \$100,000. Investors who purchased 2019 Q1 Convertible Notes 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 a debt discount associated with the warrant issuance of \$45,812 and an initial value of the convertible notes of \$64,188 using the relative fair value method. An additional \$9,464 of interest expense was recorded based upon the 10% annual rate for the year ended December 31, 2019. As of December 31, 2019, none of the 2019 Q1 Convertible Notes were paid and each remained outstanding and continued to accrue interest. Although the 2019 Q1 Convertible Notes are in default, the Company has not received any notices of default from any of the note holders. The 2019 Q1 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 Q1 Convertible Note, but not the warrant, into the next exempt private securities offering. The April 2019 Convertible Note, the May 2019 Convertible Note, the August 2019 Convertible Note, the October 2019 Convertible Note and the November 2019 Convertible Note, which the Company does not consider to have arisen from offerings, may be interpreted in such a way that the 2019 Q1 Convertible Note Holders have the right to convert or exchange. However, no holders of 2019 Q1 Convertible Notes requested a conversion or exchange in connection with the issuance of such notes. The Company does not believe that an offering occurred as of December 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 Q1 Convertible Notes may convert is not determinable and the Company has not accounted for any additional consideration. The warrants to purchase 110,000 shares of common stock issued in connection with the sale of the 2019 Q1 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 the 2019 Q1 Convertible Notes.

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 2018 Convertible Notes and the value of the warrant. Therefore, the Company recorded a debt discount associated with the issuance of the warrants of \$36,347 and an initial value of the 2018 Convertible Notes of \$43,653 using the relative fair value method. An additional \$8,111 and \$401 of interest expense was recorded based upon the 10% annual rate for the years ended December 31, 2019 and 2018 respectively. 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. The May 2019 Convertible Note and April 2019 Convertible Note, which the Company does not consider to have arisen from an offering, may be interpreted in such a way that the 2019 Q1 Convertible Note Holders have the right to convert or exchange. However, no holders of such notes have requested a conversion or exchange. The Company does not believe that an offering occurred as of December 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 additional consideration. 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 Convertible Notes and 2019 Q1 Convertible Notes consist of the following at December 31, 2019 and December 31, 2018:

	December 31, 2019	December 31, 2018
Principal amount of notes payable	\$ 190,000	\$ 80,000
Discount associated with issuance of warrants net of amortization of \$82,159 as of December 31, 2019 and \$8,379 as of December 31, 2018	-	(27,968)
Accrued interest payable	17,976	401
	<u>\$ 207,976</u>	<u>\$ 52,433</u>

Convertible 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 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 December 31, 2019 and December 31, 2018:

	December 31, 2019	December 31, 2018
Principal amount of notes payable	\$ 125,000	\$ 125,000
Accrued interest payable	82,060	62,233
	<u>\$ 207,060</u>	<u>\$ 187,233</u>

As of December 31, 2019, principal and accrued interest on the Original Convertible Note that is subject to a default notice accrues annual interest at 12% instead of 10%, totaled \$43,666, of which \$18,666 was accrued interest. As of December 31, 2018, principal and accrued interest on Original Convertible Notes subject to default notices totaled \$38,292 of which \$13,292 was accrued interest.

As of December 31, 2019 all of the outstanding Original Convertible Notes, inclusive of accrued interest, were convertible into an aggregate of 18,204 shares of the Company’s common stock, including 7,217 shares attributable to accrued interest of \$82,060 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. The Company believes that SY Corporation is in default of its obligations under its January 2012 license agreement, as amended, with the Company, but the Company has not yet issued a notice of default. The Company intends to continue efforts towards a comprehensive resolution of the aforementioned matters involving SY Corporation.

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

Note payable to SY Corporation consists of the following at December 31, 2019 and 2018:

	December 31, 2019	December 31, 2018
Principal amount of note payable	\$ 399,774	\$ 399,774
Accrued interest payable	363,280	315,307
Foreign currency transaction adjustment	3,182	29,360
	<u>\$ 766,236</u>	<u>\$ 744,441</u>

Interest expense with respect to this promissory note was \$47,971 and \$47,973 for years ended December 31, 2019 and 2018, respectively.

Advances from and Notes Payable to Officers

On January 29, 2016, Dr. Arnold S. Lippa, the Company’s Interim President, Interim Chief Executive Officer, Chief Scientific Officer and Chairman of the Board of Directors, advanced \$52,600 to the Company for working capital purposes under a demand promissory note with interest at 10% per annum. On September 23, 2016, Dr. Lippa advanced \$25,000 to the Company for working capital purposes under a second demand promissory note with interest at 10% per annum. The notes are secured by the assets of the Company. Additionally, on April 9, 2018, Dr. Lippa advanced another \$50,000 to the Company as discussed in more detail below. In connection with the loans, Dr. Lippa was issued fully vested warrants to purchase 15,464 shares of the Company’s common stock, 10,309 of which have an exercise price of \$5.1025 per share and 5,155 of which have an exercise price of \$4.85 which were the closing prices of the Company’s common stock on the respective dates of grant. The warrants expired on January 29, 2019 and September 23, 2019, respectively.

On February 2, 2016, Dr. James S. Manuso, the Company’s then Chief Executive Officer and Vice Chairman of the Board of Directors, advanced \$52,600 to the Company for working capital purposes under a demand promissory note with interest at 10% per annum. On September 22, 2016, Dr. Manuso, advanced \$25,000 to the Company for working capital purposes under a demand promissory note with interest at 10% per annum. The notes are secured by the assets of the Company. Additionally, on April 9, 2018, Dr. Manuso advanced another \$50,000 to the Company as discussed in more detail below. In connection with the loans, Dr. Manuso was issued fully vested warrants to purchase 13,092 shares of the Company’s common stock, 8,092 of which have an exercise price of \$6.50 per share and 5,000 of which have an exercise price of \$5.00, which were the closing market prices of the Company’s common stock on the respective dates of grant. The warrants expired on February 2, 2019 and September 22, 2019, respectively.

On April 9, 2018, Dr. Arnold S. Lippa, the Company’s Interim President, Interim Chief Executive Officer, Chief Scientific Officer and Chairman of the Board of Directors and Dr. James S. Manuso, the Company’s then Chief Executive Officer and Vice Chairman of the Board of Directors, advanced \$50,000 each, for a total of \$100,000, to the Company for working capital purposes. Each note is payable on demand after June 30, 2018. Each note was subject to a mandatory exchange provision that provided that the principal amount of the note would be mandatorily exchanged into a board approved offering of the Company’s securities, if such offering held its first closing on or before June 30, 2018 and the amount of proceeds from such first closing was at least \$150,000, not including the principal amounts of the notes that would be exchanged, or \$250,000 including the principal amounts of such notes. Upon such exchange, the notes would be deemed repaid and terminated. Any accrued but unpaid interest outstanding at the time of such exchange will be (i) repaid to the note holder or (ii) invested in the offering, at the note holder’s election. A first closing did not occur on or before June 30, 2018. Dr. Arnold S. Lippa agreed to exchange his note into the board approved offering that had its initial closing on September 12, 2018. Accrued interest on Dr. Lippa’s note was not exchanged. As of December 31, 2019, Dr. James S. Manuso had not exchanged his note.

During the year ended December 31, 2019, Dr. Lippa advanced on an interest free basis the Company \$38,000 of which \$13,000 was repaid to Dr. Lippa. The outstanding balance of the advance is payable on demand.

During the year ended December 31, 2019, the Company repaid \$1,000 to Jeff Margolis related to \$6,500 of interest free advances Mr. Margolis made to the Company during the year ended December 2018. The outstanding balance of the advance is payable on demand.

For the fiscal years ended December 31, 2019 and 2018, \$10,272 and \$11,268 was charged to interest expense with respect to Dr. Lippa's notes, respectively.

For the fiscal years ended December 31, 2019 and 2018, \$15,416 and \$12,769 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 his executive officer positions and as a member of the Board of Directors of the Company. All of the interest expense noted above for 2019 was incurred while Dr. Manuso was no longer an officer. With respect to the year ended December 31, 2019, of the \$12,769 of interest expense noted above, \$3,564 was incurred while Dr. Manuso was no longer an officer.

Other Short-Term Notes Payable

Other short-term notes payable at December 31, 2019 and December 31, 2018 consisted of premium financing agreements with respect to various insurance policies. At December 31, 2019, a premium financing agreement was payable in the initial amount of \$61,746, with interest at 9% per annum, in ten monthly installments of \$7,120, and another premium financing arrangement was payable in the initial amount of \$9,322 payable in equal quarterly installments. At December 31, 2019 and 2018, the aggregate amount of the short-term notes payable was \$4,635 and \$8,907 respectively.

5. Settlement and Payment Agreements

On December 16, 2019, RespireRx and Salamandra, LLC ("Salamandra") entered into an amendment (the "Amendment") to the settlement agreement and release, executed August 21, 2019 (the "Original Settlement Agreement" and as amended, the "Amended Settlement Agreement") regarding \$202,395 owed by the Company to Salamandra (as reduced by any further payments by the Company to Salamandra, the "Full Amount") in connection with an arbitration award previously granted in favor of Salamandra in the Superior Court of New Jersey. Under the terms of the Original Settlement Agreement, the Company was to pay Salamandra \$125,000 on or before November 30, 2019 in full satisfaction of the Full Amount owed, subject to conditions regarding the Company's ability to raise certain dollar amounts of working capital. Under the Amended Settlement Agreement, (i) the Company must pay and the Company paid to Salamandra \$25,000 on or before December 21, 2019, (ii) upon such payment, Salamandra ceased all collection efforts against the Company until March 31, 2020 (the "Threshold Date"), and (iii) the Company must pay to Salamandra \$100,000 on or before the Threshold Date if the Company has at that time raised \$600,000 in working capital. Such payments by the Company would constitute satisfaction of the Full Amount owed and would serve as consideration for the dismissal of the action underlying the arbitration award and the mutual releases set forth in the Amended Settlement Agreement. If the Company raises less than \$600,000 in working capital before the Threshold Date, the Company may pay to Salamandra an amount equal to 21% of the working capital amount raised, in which case such payment will reduce the Full Amount owed on a dollar-for-dollar basis, and Salamandra may then seek collection on the remainder of the debt. The Company did not make the requirement payment on March 31, 2020 and has initiated further discussions with the intent of reaching a revised settlement agreement which cannot be assured.

In February 2020, the Company and a vendor agreed to discuss amendments to an agreement in principal reached on September 23, 2019, whereby the Company and a vendor agreed in principle to a proposed settlement agreement, which has not resulted in a formal agreement. The discussions included, among other things, an extension of time to raise the amount discussed below. The September 23, 2019 agreement in principal calls for no reduction in the overall amount to be paid by the Company, which amount is not in dispute, but addresses only a payment schedule. The agreement in principal calls for a payment of a minimum of \$100,000 on or before November 30, 2019 assuming the Company has raised at least \$600,000 by that date and thereafter calls for a payment of \$50,000 per month until paid in full. If the Company does not make a scheduled payment, the agreement in principal would be deemed null and void.

On April 5, 2018, the Company issued 185,388 common stock purchase options to Robert N. Weingarten, the Company's former Chief Financial Officer and 125,000 common stock purchase options to Pharmaland Executive Consulting Services LLC ("Pharmaland") exercisable until April 5, 2023 at \$1.12 per share of common stock, which was the closing price of the common stock as quoted on the OTC QB on that date. All of these common stock purchase options vested immediately. Each of the common stock purchase options were valued on the issuance date based upon a Black-Scholes valuation method at \$1.081. Mr. Weingarten simultaneously with the issuance of the common stock purchase options, agreed to forgive \$200,350 of accrued compensation owed to him. The value of the options granted to Mr. Weingarten was \$200,404. The resulting loss on extinguishment of the accrued liability was \$54. The common stock purchase options issued to Pharmaland was in partial payment of accounts payable owed. The common stock purchase options issued to Pharmaland had a value of \$135,125 and the accounts payable extinguished was \$124,025. The loss on extinguishment of this accounts payable was \$11,100.

On November 21, 2018, the Company issued 283,643 shares of common stock with a value of \$198,550 to designees of one of its intellectual property law firms as partial settlement of accounts payable due to the law firm. There was no gain or loss on the settlement of this accounts payable.

On November 21, 2018, the Company granted a non-qualified stock option ("NQSO") to purchase 21,677 shares of common stock to a vendor to settle \$15,000 of accounts payable due to that vendor. The NQSO vested immediately with respect to 14,452 shares of common stock and on November 30, 2018 with respect to an additional 7,225 shares of common stock. As of December 31, 2018, the NQSO has vested with respect to all shares. The NQSO has a term of 5 years and have an exercise price of \$0.70 per share, which was the closing price on the trading day of the grant date. The NQSO was valued using the Black-Scholes option pricing model resulting value was \$0.692 per NQSO. There was no gain or loss on the extinguishment of the accounts payable.

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

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 December 31, 2019 and 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 December 31, 2019, 3,505,800 shares of preferred stock were undesignated and may be issued with such rights and powers as the Board of Directors may designate.

There were no shares of 9% Preferred Stock or Series A Junior Participating Preferred Stock or Series G 1.5% Convertible Preferred Stock outstanding as of December 31, 2019 and 2018.

Series B Preferred Stock outstanding as of December 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 December 31, 2019 and 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 4,175,072 shares of the Company's Common Stock outstanding as of December 31, 2019. After reserving for conversions of convertible debt as well as common stock purchase options and warrants exercises, there were 42,831,291 shares of the Company's Common Stock available for future issuances as of December 31, 2019. After accounting for excess reserves required by the April 2019 Convertible Note, the May 2019 Convertible Note, the August 2019 Convertible Note, the October 2019 Convertible Note and the November 2019 Convertible Note, there were 3,438,021 available for future issuances as of December 31, 2019. Each conversion of such 2019 Convertible Notes reduces the excess reserve requirements.

2018 Unit Offering

On September 12, 2018, the Company consummated an initial closing on an offering (“2018 Unit Offering”) of Units comprised of one share of the Company’s common stock and one common stock purchase warrant. The 2018 Unit Offering was for up to \$1.5 million and had a final termination date of October 15, 2018. The initial closing was for \$250,750 of which \$200,750 was the gross cash proceeds. The additional \$50,000 was represented by the conversion into the 2018 Unit Offering of the principal amount of the Arnold S. Lippa, Demand Promissory Note described below. With the exchange of Dr. Lippa’s Demand Promissory Note into the 2018 Unit Offering, 47,620 warrants exercisable at 150% of the unit price (\$1.575) per share of common stock and expiring on April 30, 2023 were issued with a value of \$49,975 which amount was considered a loss on the extinguishment of that officer note and which amount was credited to additional paid-in capital. Units were sold for \$1.05 per unit and the warrants issued in connection with the units are exercisable through April 30, 2023 at a fixed price of 150% of the unit purchase price. The warrants contain a cashless exercise provision and certain blocker provisions preventing exercise if the investor would beneficially own more than 4.99% of the Company’s outstanding shares of common stock as a result of such exercise. The warrants are also subject to redemption by the Company at \$0.001 per share upon ten (10) days written notice if the Company’s common stock closes at \$3.00 or more for any five (5) consecutive trading days. In total, 238,814 shares of the Company’s common stock and 238,814 common stock purchase warrants were purchased. Other than Arnold S. Lippa, the investors in the offering were not affiliates of the Company. Investors also received an unlimited number of piggy-back registration rights in respect to the shares of common stock and the shares of common stock underlying the common stock purchase warrants, unless such common stock is eligible to be sold with volume limits under an exemption from registration under any rule or regulation of the SEC that permits the holder to sell securities of the Company to the public without registration and without volume limits (assuming the holder is not an affiliate).

The shares of common stock and common stock purchase warrants 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 common stock purchase warrants, the Common Stock issuable upon exercise of the common stock purchase warrants or any warrants issued to a qualified referral source (of which there were none in the initial closing) 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.

In addition, as set forth in the Purchase Agreements, each Purchaser had an unlimited number of exchange rights, which were options and not obligations, to exchange such Purchaser’s entire investment as defined (but not less than the entire investment) into one or more subsequent equity financings (consisting solely of convertible preferred stock or common stock or units containing preferred stock or common stock and warrants exercisable only into preferred stock or common stock) that would be considered as “permanent equity” under United States Generally Accepted Accounting Principles and the rules and regulations of the United States Securities and Exchange Commission, and therefore classified within stockholders’ equity, and excluding any form of debt or convertible debt or preferred stock redeemable at the discretion of the holder (each such financing a “Subsequent Equity Financing”). The exchange rights expired on December 31, 2018.

Common Stock Warrants

In October 2019, the Company issued a warrant to purchase 175,000 shares of common stock in conjunction with the issuance of the October 2019 Convertible Note exercisable at \$0.50 per share and expiring on October 22, 2024.

In August 2019, the Company issued a warrant to purchase 150,000 shares of common stock in conjunction with the issuance of the August 2019 Convertible Note exercisable at \$0.50 per share and expiring on August 19, 2024.

In May 2019, the Company issued a warrant to purchase 42,372 shares of common stock in conjunction with the issuance of the May 2019 Convertible Note exercisable at \$1.18 per share and expiring on May 17, 2022.

In January 2019, February 2019 and March 2019, the Company issued warrants to purchase 110,000 shares of common stock in conjunction with the issuance of the 2019 Q1 Convertible Notes exercisable at \$1.50 per share and expiring on December 30, 2023.

During the year ended December 31, 2019, warrants to purchase 69,558 shares of common stock expired.

In December 2018, the Company issued warrants to purchase 80,000 of common stock in conjunction with the issuance of the December 2018 10% Convertible Notes exercisable at \$1.50 per share and expiring on December 30, 2023.

Although not considered stock-based compensation, the Company issued a warrant to purchase 47,620 shares of common stock at an exercise price of \$1.50 per share and expiring on December 30, 2023 as part of an officer note exchange into the 2018 Unit Offering. The warrants were valued at \$49,925 as of September 12, 2018, the date of issuance and were accounted for in Additional paid-in capital as of December 31, 2018.

A summary of warrant activity for the year ended December 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	3.06
Issued	477,372	0.79079	4.36
Expired	(69,558)	2.98989	-
Warrants outstanding at December 31, 2019	2,191,043	\$ 1.87109	3.44
Warrants exercisable at December 31, 2018	1,783,229	\$ 2.20393	3.06
Warrants exercisable at December 31, 2019	2,191,043	\$ 1.87109	3.44

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

Exercise Price	Warrants Outstanding (Shares)	Warrants Exercisable (Shares)	Expiration Date
\$ 0.5000	175,000	175,000	October 22, 2024
\$ 0.5000	150,000	150,000	August 19, 2024
\$ 1.0000	916,217	916,217	September 20, 2022
\$ 1.1800	42,372	42,372	May 17, 2022
\$ 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
\$ 4.8750	108,594	108,594	September 30, 2020
\$ 6.8348	145,758	145,758	September 30, 2020
\$ 7.9300	86,004	86,004	February 28, 2021
	<u>2,191,043</u>	<u>2,191,043</u>	

Based on a fair value of \$0.10 per share on December 31, 2019, there were no exercisable in-the money common stock warrants as of December 31, 2019.

A summary of warrant activity for the year ended December 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	3.73
Issued	318,814	1.55618	4.50
Warrants outstanding at December 31, 2018	<u>1,783,229</u>	<u>\$ 2.20393</u>	<u>3.06</u>
Warrants exercisable at December 31, 2017	1,464,415	\$ 2.68146	3.73
Warrants exercisable at December 31, 2018	<u>1,783,229</u>	<u>\$ 2.20393</u>	<u>3.06</u>

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 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.

During fiscal year ended December 31, 2018, there were three grants of options to purchase an aggregate of 348,827 shares of the Company's common stock to a vendor. The value of these options on the grant date was approximately equal to the amount payable to the vendor that was to be paid with the options. The cumulative loss on extinguishment of three liabilities totaling \$353,623 was \$11,154. The remaining amount payable to the vendor is due in cash.

Information with respect to the Black-Scholes variables used in connection with the evaluation of the fair value of stock-based compensation costs and fees is provided at Note 3.

A summary of stock option activity for the year ended December 31, 2019 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Options outstanding at December 31, 2018	4,344,994	\$ 3.5414	5.90
Expired	(57,385)	15.6139	-
Options outstanding at December 31, 2019	4,287,609	\$ 3.3798	4.98
Options exercisable at December 31, 2018	4,344,994	\$ 3.5414	5.90
Options exercisable at December 31, 2019	4,287,609	\$ 3.3789	4.98

The exercise prices of common stock options outstanding and exercisable were as follows at December 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
\$ 13.9750	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
\$ 16.6400	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
	4,287,609	4,287,609	

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

Based on a fair value of \$0.10 per share on December 31, 2019, there were no exercisable in-the-money common stock options as of December 31, 2019.

A summary of stock option activity for the year ended December 31, 2018 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Options outstanding at December 31, 2017	3,996,167	\$ 3.7634	6.30
Granted	348,827	1.1002	4.29
Options outstanding at December 31, 2018	4,344,994	\$ 3.5414	5.90
Options exercisable at December 31, 2017	3,996,167	\$ 3.7634	6.30
Options exercisable at December 31, 2018	4,344,994	\$ 3.5414	5.90

The exercise prices of common stock options outstanding and exercisable were as follows at December 31, 2018:

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	7,385	7,385	March 13, 2019
\$ 13.0000	3,846	3,846	April 14, 2019
\$ 13.9750	3,385	3,385	March 14, 2024
\$ 15.4700	7,755	7,755	April 8, 2020
\$ 15.9250	2,462	2,462	February 28, 2024
\$ 16.0500	46,154	46,154	July 17, 2019
\$ 16.6400	1,538	1,538	January 29, 2020
\$ 19.5000	9,487	9,487	July 17, 2022
\$ 19.5000	6,410	6,410	August 10, 2022
	4,344,994	4,344,994	

There was no deferred compensation expense for the outstanding and unvested stock options at December 31, 2018.

Based on a fair value of \$0.65 per share on December 31, 2018, there were no exercisable in-the-money common stock options as of December 31, 2018.

For the years ended December 31, 2019 and 2018, stock-based compensation costs and fees included in the consolidated statements of operations consisted of general and administrative expenses of \$0 and \$14,248 respectively, and research and development expenses of \$0 and \$15,000, respectively.

Pier Contingent Stock Consideration

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

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 December 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, and 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 6,985,260 and 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 December 31, 2019, the Company had 65,000,000 shares of common stock authorized and 4,175,072 shares of common stock issued and outstanding. The Company has reserved 11 shares of common stock for the conversion of the Series B Preferred Stock. The Company has reserved an aggregate of 7,035,706 for the calculated amount of shares of common stock into which convertible notes may convert and an additional 39,375,462 shares of common stock for contractual reserves. In addition, The Company has reserved 6,478,652 shares of the Company’s common stock for exercises of common stock purchase options granted and warrants issued. There are 4,490,578 shares reserved for future issuances under the Company’s 2014 Plan and 2015 Plan. Accordingly, after taking into consideration the shares of common stock reserved for all conversions, exercises and contingent share issuances, there were 42,813,484 shares of the Company’s common stock available for future issuances as of December 31, 2019. After accounting for additional contractual reserves, which amount declines with each actual conversion, there are 3,438,022 shares of the Company’s common stock available for future issuances as of December 31, 2019. The Company has taken steps to increase the number of authorized shares. See Note 10. Subsequent Events. The Company expects to satisfy its future common stock commitments through the issuance of authorized but unissued shares of common stock.

7. Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company’s deferred tax assets as of December 31, 2019 and 2018 are summarized below.

	December 31,	
	2019	2018
Capitalized research and development costs	\$ -	\$ 183,000
Research and development credits	3,017,000	3,017,000
Stock-based compensation	3,787,000	3,787,000
Stock options issued in connection with the payment of debt	202,000	202,000
Net operating loss carryforwards	19,982,000	20,424,000
Accrued compensation	586,000	367,000
Accrued interest due to related party	217,000	103,000
Other, net	8,000	8,000
Total deferred tax assets	27,799,000	28,091,000
Valuation allowance	(27,799,000)	(28,091,000)
Net deferred tax assets	\$ -	\$ -

In assessing the potential realization of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will be realized. The ultimate realization of deferred tax assets is dependent upon the Company attaining future taxable income during the periods in which those temporary differences become deductible. As of December 31, 2019 and 2018, management was unable to determine that it was more likely than not that the Company’s deferred tax assets will be realized, and has therefore recorded an appropriate valuation allowance against deferred tax assets at such dates.

No federal tax provision has been provided for the years ended December 31, 2019 and 2018 due to the losses incurred during such periods. Reconciled below is the difference between the income tax rate computed by applying the U.S. federal statutory rate and the effective tax rate for the years ended December 31, 2019 and 2018.

	Years Ended December 31,	
	2019	2018
U. S. federal statutory tax rate	(21.0)%	(21.0)%
Forgiveness of indebtedness	-%	-%
Change in valuation allowance	(1.0)%	(14.4)%
Adjustment to deferred tax asset	22.0%	35.4%
Other	-%	-%
Effective tax rate	0.0%	0.0%

As of December 31, 2019, the Company had federal and state tax net operating loss carryforwards of approximately \$102,216,000 and \$46,645,000, respectively. The state tax net operating loss carryforward consists of \$19,673,000 for California purposes and \$26,972,000 for New Jersey purposes. The difference between the federal and state tax loss carryforwards was primarily attributable to the capitalization of research and development expenses for California franchise tax purposes. The federal net operating loss carryforwards will expire at various dates from 2020 through 2039. State net operating losses expire at various dates from 2020 through 2029 for California and through 2039 for New Jersey. The Company also had federal and California research and development tax credit carryforwards that totaled approximately \$1,871,000 and \$1,146,000, respectively, at December 31, 2019. The federal research and development tax credit carryforwards will expire at various dates from 2020 through 2031. The California research and development tax credit carryforward does not expire and will carryforward indefinitely until utilized.

While the Company has not performed a formal analysis of the availability of its net operating loss carryforwards under Internal Revenue Code Sections 382 and 383, management expects that the Company’s ability to use its net operating loss carryforwards will be limited in future periods.

The Company did not file its federal or state tax returns for the year ended December 31, 2017 or 2018 and has not yet filed such returns for the year ended December 31, 2019. The Company does not expect there to be any material non-filing penalties. The Company intends to file such returns as soon as practical.

8. Related Party Transactions

Dr. Arnold S. Lipka 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. Notes Payable – *Advances from and Notes Payable to Officer*.

Dr. James S. Manuso resigned as the Company’s President and Chief Executive Officer as well as Vice Chairman and member of the Board of Directors effective as of September 30, 2018. Having been the principal executive officer of the Company during the fiscal year ended December 31, 2018, Dr. Manuso is considered a named executive officer for the year ended December 31, 2018, but not for the year ended December 31, 2019. Dr. Manuso remains an affiliate due to his equity ownership and option grants.

9. Commitments and Contingencies

Pending or Threatened Legal Action and Claims

On March 10, 2020, Sharp Clinical Services, Inc. filed a complaint and summons dated February 21, 2020 in Superior Court of New Jersey Law Division, Bergen County against the Company related to a December 16, 2019 demand for payment of past due invoices inclusive of late fees totaling \$103,890 of which \$3,631 relates to late fees. The complaint and summons seeks \$100,259 plus 1.5% interest per month on outstanding unpaid invoices. On Friday March 13, 2020, the RespireRx and its counsel communicated with counsel to this vendor and discussed why a settlement of such matter would be in the best interests of both parties, but has not yet received a response from this vendor or it’s counsel. As of December 31, 2019, the Company had recorded accounts payable of \$99,959 to such vendor an amount considered by the Company to be reasonable given the ongoing settlement discussions.

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 Company has re-evaluated that portion of its AMPAkine program and has decided not to enter into a new agreement at this time. The lack of entry into a new agreement at this time does not affect the Company's other AMPAkine programs and permits the Company to reallocate resources to those programs, including, but not limited to ADHD, SCI, FXS and others.

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 December 31, 2019 and 2018.

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 December 31, 2019 and 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. See Note 5. Settlement and Payment Agreements for additional items and details.

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 \$150,000 for the fiscal years ended December 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

Employment Agreements

On October 12, 2018, after the resignation of Dr. James Manuso effective September 30, 2018, Dr. Lippa was named Interim President and Interim Chief Executive Officer (see Note 9 to the Company's consolidated financial statements for the fiscal years ended December 31, 2019 and 2018). Dr. Lippa has continued to serve as the Company's Executive Chairman and as a member of the Board of Directors. 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 was for an initial term through September 30, 2018 (and which automatically extended on September 30, 2018 and 2019 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 earned 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 has been granted stock options on several occasions and is eligible to receive additional awards under the Company's Plans at the discretion of the Board of Directors. Dr. Lippa did not receive any option to purchase shares of common stock during fiscal year ended December 31, 2019. 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 to the Company's consolidated financial statements for the fiscal years ended December 31, 2019 and 2018. Cash compensation inclusive of employee benefits accrued pursuant to this agreement totaled \$339,600 for each of the fiscal years ended December 31, 2019 and 2018, respectively, which amounts are included in accrued compensation and related expenses in the Company's consolidated balance sheet at December 31, 2019 and 2018, and in research and development expenses in the Company's consolidated statement of operations for the fiscal years ended December 31, 2019 and 2018. 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 role at that time as Vice President, Secretary and Treasurer. Pursuant to the agreement, which was for an initial term through September 30, 2016 and later amended (and which automatically extended on September 30, 2016, 2017, 2018 and 2019 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 currently receives an annual base salary of \$300,000, and is eligible to receive performance-based annual bonus awards 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. Additionally, Mr. Margolis has granted stock options on several occasions 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 to the Company's consolidated financial statements for fiscal years ended December 31, 2019 and 2018. Recurring cash compensation accrued pursuant to this amended agreement totaled \$321,600 for the fiscal year ended December 31, 2019 and 2018 which amounts are included in accrued compensation and related expenses in the Company's consolidated balance sheet December 31, 2019 and 2018, and in general and administrative expenses in the Company's consolidated statement of operations.

The employment agreements between the Company and 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) 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 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 (Δ^9 -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, 2019, was extended to June 30, 2020. 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 in 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.

During the fiscal years ended December 31, 2019 and 2018, the Company recorded charges to operations of \$100,000, respectively, with respect to its 2019 and 2018 minimum annual royalty obligation, which is included in research and development expenses in the Company's consolidated statement of operations for the fiscal years ended December 31, 2019 and 2018. The Company did not pay the amount due on December 31, 2019 for which the Company was granted an extension until June 30, 2020.

University of Alberta 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, after reaching that tentative agreement, the Company has re-evaluated that portion of its AMPAkine program and has decided not to enter into a new agreement at this time. The lack of entry into a new agreement at this time does not affect the Company's other AMPAkine programs and permits the Company to reallocate resources to those programs, including, but not limited to ADHD, FXS, SCI and CNS-driven Disorders.

Noramco Inc. - Dronabinol Development and Supply Agreement

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 New Drug Application ("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 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 agreed to 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.

Transactions with Biovail Laboratories International SRL

Beginning in March 2010, the Company entered into a series of asset purchase and license agreements with Biovail Laboratories International SRL later merged with Valeant Pharmaceuticals International, Inc. which was later renamed Bausch Health Companies Inc. ("Biovail").

In March 2011, the Company entered into a new agreement with Biovail to reacquire the AMPAkine compounds, patents and rights that Biovail had acquired from the Company in March 2010. The new agreement provided for potential future payments of up to \$15,150,000 by the Company based upon the achievement of certain developments, including new drug application submissions and approval milestones pertaining to an intravenous dosage form of the AMPAkine compounds for respiratory depression, a therapeutic area not currently pursued by the Company. Biovail is also eligible to receive additional payments of up to \$15,000,000 from the Company based upon the Company's net sales of an intravenous dosage form of the compounds for respiratory depression.

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

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 December 31, 2019, aggregating \$995,900. Employment agreement amounts included in the 2020 column represent amounts contractually due at from January 1, 2020 through September 30, 2020 when such contracts expire unless extended pursuant to the terms of the contracts.

	Total	Payments Due By Year				
		2020	2021	2022	2023	2024
License agreements	\$ 500,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Employment agreements (1)	495,900	495,900	-	-	-	-
Total	\$ 995,900	\$595,900	\$100,000	\$100,000	\$100,000	\$100,000

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

10. Subsequent Events

On March 10, 2020, RespireRx was served a complaint and summons dated February 21, 2020 related to a December 16, 2019 demand for payment of past due invoices inclusive of late fees totaling \$103,890 of which \$3,631 relates to late fees which seeks \$100,259 plus 1.5% interest per month on outstanding unpaid invoices. On Friday March 13, 2020, RespireRx and its counsel communicated with vendor’s counsel and discussed why a settlement of such matter would be in the best interests of both parties. As of December 31, 2019, the Company had recorded accounts payable of \$99,959 to such vendor an amount considered by the Company to be reasonable given the ongoing settlement discussions.

The due date of the \$100,000 annual amount payable to the University of Illinois that was originally due on December 31, 2019 pursuant to the 2014 License Agreement, was extended to June 30, 2020.

On March 2, 2020, RespireRx and UWM Research Foundation, an affiliate of the University of Wisconsin-Milwaukee, entered into an option agreement (“UWMRF Option Agreement”) pursuant to which RespireRx has a six-month option to license the identified intellectual property pursuant to license terms substantially in the Form of a Patent License Agreement (“UWMRF License Agreement”) that is attached to the UWMRF Option Agreement as Appendix I. The UWMRF License Agreement, if it becomes effective, will expand the Company’s neuromodulator program which has historically included the Company’s AMPA_kine program to include a GABA-A program as well.

On March 20, 2020, the holder of the August 2019 Convertible Note converted \$1,000 of principal and \$866 of reimbursable costs into 200,000 shares of the Company’s common stock. On March 16, 2020 the same holder converted \$1,000 principal amount and \$866 of reimbursable conversion costs into 200,000 shares of the Company’s common stock. On February 24, 2020 the same holder converted \$6,150 principal amount and \$1,200 of reimbursable costs into 175,000 shares of the Company’s common stock. There remains \$46,850 of principal amount plus accrued interest due on the August 2019 Convertible Note (See Note 4. Notes Payable – *Convertible Notes Payable*).

On March 20, 2020, the holder of the May 2019 Convertible Note converted \$493 of principal and \$750 of reimbursable costs into 259,000 shares of the Company's common stock. There remains \$44,953 of principal amount plus accrued interest due on the May 2019 Convertible Note. (See Note 4. Notes Payable – *Convertible Notes Payable*).

On March 26, 2020 the holder of the April 2019 Convertible Note converted \$5,600 principal amount and \$3,510 of interest into 1,247,945 shares of the Company's common stock which resulted in the full repayment of all amounts owed pursuant to the April 2019 Convertible Note. On March 24, 2020 and March 20, 2019, the holder of the April 2019 Convertible Note converted \$1,800 principal amount on each date into 246,575 shares of the Company's common stock on each date. Similarly, on March 19, 2020 the holder of the April 2019 Convertible Note converted \$1,800 principal amount into 246,575 shares of the Company's common stock. On January 6, 2020, February 18, 2020 and March 4, 2020 the holder of the April 2019 Convertible Note converted \$9,800, \$9,400 and \$8,300 respectively, of principal amount into 200,820, 217,090 and 226,776 shares of the Company's common stock respectively. There remains no principal amount or accrued interest due on the April 2019 Convertible Note. (See Note 4. Notes Payable – *Convertible Notes Payable*).

On March 21, 2020, the Company entered into five separately negotiated Exchange Agreements (each an "Exchange Agreement" and collectively, the "Exchange Agreements") with certain existing holders (the "Noteholders") of Convertible Promissory Notes of the Company (the "Notes"). On March 22, 2020 (the "Closing Date"), each Noteholder exchanged his, her or its Note or Notes for shares of common stock of the Company as contemplated by the respective Exchange Agreement. The Noteholders were issued the Notes by the Company on one or more of the following dates: December 31, 2014, December 6, 2018, December 7, 2018, February 27, 2019, March 6, 2019 and March 14, 2019. Under the Exchange Agreements, an aggregate of \$255,786.37 principal amount and accrued interest with respect to the Notes were exchanged and cancelled in return for an aggregate of 17,052,424 shares of Common Stock.

On March 21, 2020, two directors and officers of the Company, agreed to forgive a portion of the accrued but unpaid compensation to which each was entitled pursuant to his employment agreement with the Company, equal to \$153,000 each. On March 22, 2020, the Company issued to each of them 4,500,000 shares of Common Stock in exchange for this forgiveness, which equates to a per share value of \$0.034 per share, the closing share price of Common Stock on Friday, March 20, 2020, the last business day prior to the transaction.

Under the terms of the April 2019 Convertible Note, the May 2019 Convertible Note, the August 2019 Convertible Note, the October 2019 Convertible Note and the November 2019 Convertible Note (each a "Subsequent Note" and collectively, the "Subsequent Notes"), the Company is subject to covenants to maintain a number of reserved shares of common stock with respect to these Subsequent Notes. The reserve requirement is generally a multiple of the number of shares of common stock that would be issued if there were a conversion pursuant to the terms of the applicable Subsequent Note. A breach by the Company of these covenants is an event of default under the terms of the April, August and October Subsequent Notes that generally increases the applicable note's principal amount and interest rate, and accelerates its maturity date, making the debt immediately due and payable. For the May Subsequent Note, the provisions are similar, but a notice of default is required before such increases and acceleration. For the November Subsequent Note, an event of default will only occur if the holder requests replenishment of the reserves, and that request is not met within three days or a subsequent five-day cure period. The holder of the November Subsequent Note has not yet made such request. (See Note 4. Notes Payable – *Convertible Notes Payable*).

On March 21 and 22, 2020, the board of directors of Company approved, and on March 22, 2020 the holders of a majority of the outstanding shares of the Company's common stock executed written consents approving a Certificate of Amendment to the Company's Certificate of Incorporation. When filed with the Secretary of State of Delaware, the Certificate of Amendment will increase the number of authorized shares of Common Stock of the Company from 65,000,000 to 1,000,000,000. The Company as required, filed a Form DEF 14C Information Statement with the Securities and Exchange Commission. The filing was made on April 10, 2020. The Company is required to provide (generally by mail), the DEF 14C to its shareholders who did not consent to the action. Twenty days after the commencement of the distribution of the Form DEF 14C, the Company is eligible to file the Certificate of Amendment with the Secretary of State of Delaware. The Company has taken this action primarily to increase the number of authorized shares available and to bring it back into compliance with the covenants in the Subsequent Notes regarding the required number of reserved shares of common stock. As described above, the outstanding principal of certain of the Subsequent Notes has been reduced as the holders of these notes have converted a portion of the outstanding principal in exchange for Common Shares, pursuant to the term of the applicable Subsequent Note. With respect to those Subsequent Notes for which conversions have occurred, interest continues to accrue based upon the reduced principal amount of the relevant Subsequent Note. The Company has received waivers of the reserve requirements from several of the Subsequent Note holders until April 30, 2020. The Company is in discussions with the relevant remaining holders of the Subsequent Notes with respect to this recent action, seeking waivers regarding the technical breach of the reserve provisions until such time as the increase in authorized shares is effective, which the Company currently expects will be on or about April 30, 2020, at which time the Company expects that the number of reserved shares will again be in compliance with the applicable covenants.

Dr. Lipka and Mr. Margolis have made advances to the Company on April 13, 2020 totaling \$18,500 in the aggregate, which funds were utilized to make a payment of \$18,000 to the Company's auditors.

FINANCIAL STATEMENTS AND INFORMATION

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

CONDENSED CONSOLIDATED BALANCE SHEETS

	<u>June 30, 2020</u> (unaudited)	<u>December 31, 2019</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,492	\$ 16,690
Prepaid expenses	<u>84,191</u>	<u>28,638</u>
Total current assets	85,683	45,328
Total assets	<u>\$ 85,683</u>	<u>\$ 45,328</u>
LIABILITIES AND STOCKHOLDERS' DEFICIENCY		
Current liabilities:		
Accounts payable and accrued expenses, including \$574,226 and \$476,671 payable to related parties at June 30, 2020 and December 31, 2019, respectively	\$ 4,307,228	\$ 3,772,030
Accrued compensation and related expenses	2,270,084	2,083,841
Convertible notes payable, currently due and payable on demand, including accrued interest of \$69,297 and \$113,304 at June 30, 2020 and December 31, 2019, respectively of which \$46,230 and \$43,666, was deemed to be in default at June 30, 2020 and December 31, 2019 (Note 4)	201,754	551,591
Note payable to SY Corporation, including accrued interest of \$387,201 and \$363,280 at June 30, 2020 and December 31, 2019, respectively (payment obligation currently in default – Note 4)	760,215	766,236
Notes payable to officer, including accrued interest of \$41,021 and \$35,388 as of June 30, 2020 and December 31, 2019, respectively (Note 4)	147,871	142,238
Notes payable to former officer, including accrued interest of \$50,417 and \$41,977 as of June 30, 2020 and December 31, 2019, respectively (Note 4)	178,017	169,577
Other short-term notes payable	<u>67,262</u>	<u>4,634</u>
Total current liabilities	<u>7,932,431</u>	<u>7,490,147</u>
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: 1,000,000,000; shares issued and outstanding: 222,307,381 at June 30, 2020 and 4,175,072 at December 31, 2019, respectively (Note 2 and Note 9)	222,307	4,175
Additional paid-in capital	160,181,182	159,038,388
Accumulated deficit	<u>(168,271,940)</u>	<u>(166,509,085)</u>
Total stockholders' deficiency	<u>(7,846,748)</u>	<u>(7,444,819)</u>
Total liabilities and stockholders' deficiency	<u>\$ 85,683</u>	<u>\$ 45,328</u>

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

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)**

	Three Months Ended June 30,		Six Months Ended June 30,	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Operating expenses:				
General and administrative, including \$147,255 and \$122,025 to related parties for the three months ended June 30, 2020 and 2019, respectively, and \$249,614 and \$243,225 to related parties for the six months ended June 30, 2020 and 2019, respectively	\$ 463,739	\$ 270,391	\$ 829,019	\$ 594,904
Research and development, including \$121,900 and \$122,400 to related parties for the three months ended June 30, 2020 and 2019, respectively, and \$244,800 to related parties for the six months ended June 30, 2020 and 2019, respectively	153,176	148,000	308,466	297,350
Total operating expenses	<u>616,915</u>	<u>418,391</u>	<u>1,137,485</u>	<u>892,254</u>
Loss from operations	(616,915)	(418,391)	(1,137,485)	(892,254)
Loss on extinguishment of debt and other liabilities in exchange for equity	(-)	-	(323,996)	-
Interest expense, including \$2,817 and \$2,561 to related parties for the three months ended June 30, 2020 and 2019, respectively, and \$5,633 and \$5,094 to related parties for the six months ended June 30, 2020 and 2019, respectively	(190,606)	(70,533)	(331,316)	(151,645)
Foreign currency transaction gain (loss)	<u>(8,616)</u>	<u>11,711</u>	<u>29,942</u>	<u>26,354</u>
Net loss attributable to Common Stockholders	<u>\$ (816,137)</u>	<u>\$ (477,213)</u>	<u>\$ (1,762,855)</u>	<u>\$ (1,017,545)</u>
Net loss per common share - basic and diluted	<u>\$ (0.01)</u>	<u>\$ (0.12)</u>	<u>\$ (0.04)</u>	<u>\$ (0.26)</u>
Weighted average common shares outstanding - basic and diluted	<u>86,606,705</u>	<u>3,872,076</u>	<u>49,320,761</u>	<u>3,872,076</u>

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

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

**CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIENCY
(Unaudited)**

Six-months Ended June, 2020

	Series B Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficiency
	Shares	Amount	Shares	Par Value			
Balance, December 31, 2019	37,500	\$ 21,703	4,175,072	\$ 4,175	\$ 159,038,388	\$ (166,509,085)	\$ (7,444,819)
Issuances of Common Stock	-	-	29,518,781	29,519	910,599	-	940,118
Net loss for the three months ended March 31, 2020						(946,718)	(946,718)
Balance at March 31, 2020	37,500	\$ 21,703	33,693,853	\$ 33,694	\$ 159,948,987	\$ (167,455,803)	\$ (7,451,419)
Issuances of Common Stock	-	-	188,613,528	188,613	142,195	-	330,808
Note discounts					90,000		90,000
Net loss						(816,137)	(816,137)
Balance, June 30, 2020	<u>37,500</u>	<u>\$ 21,703</u>	<u>222,307,381</u>	<u>\$ 222,307</u>	<u>\$ 160,181,182</u>	<u>\$ (168,271,940)</u>	<u>\$ (7,846,748)</u>

Three-months Ended June, 2020

	Series B Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficiency
	Shares	Amount	Shares	Par Value			
Balance, March 31, 2020	37,500	\$ 21,703	33,693,853	\$ 33,694	\$ 159,948,987	\$ (167,455,803)	\$ (7,451,419)
Issuances of Common Stock	-	-	188,613,528	188,613	232,195	-	420,808
Net loss						(816,137)	(816,137)
Balance, June 30, 2020	<u>37,500</u>	<u>\$ 21,703</u>	<u>222,307,381</u>	<u>\$ 222,307</u>	<u>\$ 160,181,182</u>	<u>\$ (168,271,940)</u>	<u>\$ (7,846,748)</u>

Six-months Ended June 30, 2019

	Series B Convertible Preferred Stock		Common Stock		Additional Paid-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 for the three months ended March 31, 2019						\$ (540,332)	\$ (540,332)
Balance at March 31, 2019	37,500	\$ 21,703	3,872,076	\$ 3,872	\$ 158,681,034	\$ (164,934,384)	\$ (6,227,775)
Fair value of Common Stock warrants and beneficial conversion feature associated with convertible notes					\$ 87,950		\$ 87,950
Net loss for the three months ended June 30, 2019						(477,213)	(477,213)
Balance, June 30, 2019	<u>37,500</u>	<u>\$ 21,703</u>	<u>3,872,076</u>	<u>\$ 3,872</u>	<u>\$ 158,768,984</u>	<u>\$ (165,411,597)</u>	<u>\$ (6,617,038)</u>

Three-months Ended June 30, 2019

	Series B Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficiency
	Shares	Amount	Shares	Par Value			
Balance, March 31, 2019	37,500	\$ 21,703	3,872,076	\$ 3,872	\$ 158,681,034	\$ (164,934,384)	\$ (6,227,775)
Fair value of Common Stock warrants and beneficial conversion feature associated with convertible notes	-	-			87,950	-	87,950
Net loss						(477,213)	(477,213)
Balance, June 30, 2019	<u>37,500</u>	<u>\$ 21,703</u>	<u>3,872,076</u>	<u>\$ 3,872</u>	<u>\$ 158,768,984</u>	<u>\$ (165,411,597)</u>	<u>\$ (6,617,038)</u>

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

RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended June 30,	
	2020	2019
Cash flows from operating activities:		
Net loss	\$ (1,762,855)	\$ (1,017,545)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of debt discounts	237,615	89,000
Loss on extinguishment of debt	323,996	-
Foreign currency transaction (gain) loss	(29,942)	(26,354)
Changes in operating assets and liabilities:		
Prepaid expenses	(55,552)	(59,250)
Accounts payable and accrued expenses	535,198	261,889
Accrued compensation and related expenses	492,243	390,600
Accrued interest payable	152,849	95,382
Net cash used in operating activities	(106,448)	(266,278)
Cash flows from financing activities:		
Proceeds from convertible notes borrowings	90,000	213,500
Debt issuance costs	-	(5,500)
Proceeds from issuance of note payable to officer	1,250	25,000
Net cash provided by financing activities	91,250	233,000
Cash and cash equivalents:		
Net decrease	(15,198)	(33,278)
Balance at beginning of period	16,690	33,284
Balance at end of period	\$ 1,492	\$ 6

(Continued)

	Six Months Ended June 30,	
	2020	2019
Supplemental disclosures of cash flow information:		
Cash paid for -		
Interest	\$ 1,498	\$ 932
Non-cash financing activities:		
Beneficial Conversion Feature and Warrants issued with convertible debt	\$ 90,000	50,258
Debt and accrued interest converted to Common Stock	\$ 950,421	\$ -
Issuance of Common Stock for accrued compensation and benefits	\$ 306,000	\$ -
Cashless warrant exercises	\$ 15,638	\$ -
Original issue discounts associated with convertible debt	\$ -	\$ 10,500

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

**RESPIRERX PHARMACEUTICALS INC.
AND SUBSIDIARY**

**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)**

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 (as amended, the “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. In August 2012, RespireRx acquired Pier Pharmaceuticals, Inc. (“Pier”), which is now a wholly owned subsidiary. Pier was a clinical stage biopharmaceutical company developing a pharmacologic treatment for obstructive sleep apnea (“OSA”) and had been engaged in research and clinical development activities which activities are now in RespireRx.

While developing potential applications for respiratory disorders, notably dronabinol (a cannabinoid that is a synthetic form of Δ^9 -tetrahydrocannabinol (“ Δ^9 -THC”)), for the treatment of OSA, the Company has retained and expanded its AMPAkinic intellectual property and data with respect to neurological and psychiatric disorders and is considering developing certain potential products in this platform, subject to raising additional financing and/or entering into strategic relationships, of which no assurance can be provided. On August 1, 2020, RespireRx and the University of Wisconsin-Milwaukee Research Foundation, Inc. (“UWMRF”), an affiliate of the University of Wisconsin-Milwaukee, entered into a Patent License Agreement (the “UWMRF Patent License Agreement”), pursuant to which UWMRF licensed to RespireRx certain patent and technology rights held by UWMRF for RespireRx’s use in developing commercial products (See Note 9. Subsequent Events). The licensed intellectual property is associated with a program involving GABAkinic, positive allosteric modulators (“PAMs”) of the Type A gamma-amino-butyric acid (“GABA_A”) receptors. Together, the AMPAkinic and GABAkinic programs are the foundation of the Company’s neuromodulator platform called EndeavourRx.

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 June 30, 2020 and for the three-months and six-months ended June 30, 2020 and 2019, 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 June 30, 2020, the results of its condensed consolidated operations for the three-months and six-months ended June 30, 2020 and 2019, changes in its condensed consolidated statements of stockholders’ deficiency for the six-months ended June 30, 2020 and 2019 and its condensed consolidated cash flows for the six-months ended June 30, 2020 and 2019. 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, 2019 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 United States generally accepted accounting principles (“GAAP”) 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, 2019, as filed with the SEC.

2. Business

The mission of the Company is to develop innovative and revolutionary treatments to combat disorders caused by disruption of neuronal signalling. 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 (“FXS”). With the addition of the GABAKine program we have added development programs for treatment resistant epilepsy and other convulsant disorders, and potentially migraine, inflammatory and neuropathic pain, as well as other areas of interest based on results of animal studies to date. We are developing a pipeline of new drug products based on our broad patent portfolios for two drug platforms: (i) our cannabinoids platform (which we refer to as ResolutionRx), including dronabinol (a synthetic form of Δ^9 -tetrahydrocannabinol (“ Δ^9 -THC”)), which acts upon the nervous system’s endogenous cannabinoid receptors and (ii) our neuromodulators platform (which we refer to as EndeavourRx), which platform includes two programs: (a) our AMPAKines program, proprietary compounds that positively modulate AMPA-type glutamate receptors to promote neuronal function and (b) our GABAKines program, PAMs of GABA_A receptors that are the subject of the UWMRF Patent License Agreement.

With the ResolutionRx cannabinoid platform, we plan to create a wholly owned private subsidiary of RespireRx with its own board of directors.

With the EndeavourRx neuromodulator platform, we are considering creating another wholly owned private subsidiary of RespireRx with its own board of directors.

Cannabinoids

With respect to 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 (of which no assurance can be provided), 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 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.

Neuromodulators – EndeavourRx - AMPAKines and GABAKines

Neurotransmitters are chemicals released by neurons that enable neurons to communicate with one another. This process is called neurotransmission. Neurons release neurotransmitters that attach to a very specific protein structure, termed a receptor, residing on an adjacent neuron. This neurotransmission process can either increase or decrease the excitability of the neuron receiving the message.

Neuromodulators do not act directly at the neurotransmitter binding site, but instead act at accessory sites that enhance (Positive Allosteric Modulators – “PAMs”) or reduce (Negative Allosteric Modulators – “NAMs”) the actions of neurotransmitters at their primary receptor sites. Neuromodulators have no intrinsic activity of their own. We believe that neuromodulators offer the possibility of developing “kinder and gentler” neuropharmacological drugs with greater pharmacological specificity and reduced side effects compared to present drugs, especially in disorders for which there is a significant unmet or poorly met clinical need such as ADHD, SCI, Autism Spectrum Disorder (“ASD”), FXS, treatment resistant epilepsy, neuropathic pain and additional CNS-driven disorders. We are focused presently on developing drugs known as AMPAKines (PAMs at AMPA receptors) and GABAKines (PAMs at GABA_A receptors).

Through an extensive AMPAkinine translational research effort from the cellular level through Phase 2 clinical trials, the Company has developed a family of novel, low impact AMPAkinines, including CX717, CX1739 and CX1942 that may have clinical application in the treatment of CNS-driven neurobehavioral and cognitive disorders, SCI, neurological diseases, and certain orphan indications. From our AMPAkinine program, 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 successfully 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 (“CSA”). Preclinical studies have highlighted the potential ability of these AMPAkinines to improve motor function in animals with SCI. 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 or CX717 in patients with spinal cord injury and a human Phase 2B study in patients with ADHD with either CX1739 or CX717.

In order to expand our neuromodulator asset base, we entered into an option agreement with UWMRF which option we exercised effective August 1, 2020 resulting in the establishment of the UWMRF Patent License Agreement. Under the UWMRF Patent License Agreement, UWMRF granted to the Company an exclusive license to commercialize GABAkinine products based on UWMRF’s rights in certain patents and patent applications, and a non-exclusive license to commercialize products based on UWMRF’s rights in certain technology that is not the subject of the patents or patent applications. See Note 8. Commitments and Contingencies – *Significant Agreements and Contracts – UWMRF Patent License Agreement*.

Certain of these GABAkinines have shown impressive activity in a broad range of animal models of treatment resistant epilepsy and other convulsant disorders, as well as in brain tissue samples obtained from epileptic patients in research conducted at the University of Wisconsin-Milwaukee by Dr. James Cook and by Dr. Jeffrey Witkin of the Indiana University School of Medicine, among others at collaborating institutions. Epilepsy is a chronic and highly prevalent neurological disorder that affects millions of people world-wide. While many anticonvulsant drugs have been approved to decrease seizure probability, seizures are not well controlled and, in as many as 60-70% of patients, existing drugs are not efficacious at some point in the disease progression. We believe that the medical and patient community are in clear agreement that there is desperate need for improved antiepileptic drugs. In addition, these GABAkinines have shown positive activity in animal models of migraine, inflammatory and neuropathic pain, as well as other areas of interest. Because of these compounds’ GABA receptor subunit specificity, we believe the compounds have a greatly reduced liability to produce sedation, motor incoordination, memory impairments and tolerance, side effects commonly associated with non-specific GABA PAMs, such as benzodiazepines.

Building upon the AMPAkinine and GABAkinine programs as a foundation, we established a second business unit called EndeavourRx which focuses on developing novel neuromodulators for disorders resulting from alterations in neurotransmission.

Financing our Platforms

Our major challenge has been to raise substantial equity or equity-linked financing to support research and development plans for our cannabinoid and neuromodulator platforms, while minimizing the dilutive effect to pre-existing stockholders. At present, we believe that we are hindered primarily by our public corporate structure, our OTCQB listing, and low market capitalization as a result of our low stock price. For this reason, the Company is considering an internal restructuring plan that contemplates spinning out our two drug platforms into separate operating businesses or subsidiaries.

We believe that by creating one or more subsidiaries to further the aims of ResolutionRx and EndeavourRx, it may be possible, through separate finance channels, to optimize the asset values of both the cannabinoid platform and the neuromodulator platform.

Going Concern

The Company’s condensed consolidated financial statements have been presented on the basis that it is a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has incurred net losses of \$1,762,855 for the six-months ended June 30, 2020 and \$2,115,033 for the fiscal year ended December 31, 2019 respectively, as well as negative operating cash flows of \$106,448 for the six-months ended June 30, 2020 and \$487,745 for the fiscal year ended December 31, 2019. The Company also had a stockholders’ deficiency of \$7,846,748 at June 30, 2020 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 audit report on the Company’s consolidated financial statements for the year ended December 31, 2019, 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, establishment of new and maintenance and improvement of existing and in-process 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 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, 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 of our 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 Credit Risk

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

Value of Financial Instruments

The authoritative guidance with respect to value of financial instruments established a value hierarchy that prioritizes the inputs to valuation techniques used to measure value into three levels and requires that assets and liabilities carried at 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 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 value hierarchy within which each value measurement falls in its entirety, based on the lowest level input that is significant to the 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, and accounts payable and accrued expenses) are considered by the Company to be representative of the respective values of these instruments due to the short-term nature of those instruments. With respect to the note payable to SY Corporation (as defined below) 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 values of such instruments due to the short-term nature of those instruments and their terms.

Deferred Financing Costs

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

Costs related to abandoned debt or equity financings are charged to operations in the period of abandonment. Costs related to completed equity financings are netted against the proceeds.

Capitalized Financing Costs

The Company presents debt issuance costs related to debt obligations in its consolidated balance sheet as a direct deduction from the carrying amount of that debt obligation, consistent with the presentation for debt discounts.

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 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 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 and Settlement of Liabilities

The Company accounts for the extinguishment of debt and settlement of liabilities by comparing the carrying value of the debt or liability to the 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.

Prepaid Insurance

Prepaid insurance represents the premium paid in March 2020 for directors and officers insurance, as well as the amortized amount of an April 2020 premium payment for office-related insurances and clinical trial coverage. Directors' and Officers' insurance tail coverage, purchased in March 2013 expired in March 2020 and all prepaid amounts have been fully amortized. The amounts of prepaid insurance amortizable in the ensuing twelve-month period are recorded as prepaid insurance in the Company's consolidated balance sheet at each reporting date and amortized to the Company's consolidated statement of operations for each reporting period.

Stock-Based Awards

The Company periodically issues common stock and stock options to officers, directors, Scientific Advisory Board members, 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 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.

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

Stock options granted to members of the Company's outside consultants and other vendors are valued on the grant date. As the stock options vest, the Company recognizes this expense over the period in which the services are provided.

The 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.

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

The Company recognizes the 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.

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 June 30, 2020, 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 June 30, 2020, 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 (as defined below), 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, including but not limited to compensation paid to our former Interim Chief Executive Officer and Interim President who is also our Chief Scientific Officer 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.

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 June 30, 2020 and 2019, 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.

	June 30,	
	2020	2019
Series B convertible preferred stock	11	11
Convertible notes payable	55,578,272	564,797
Common stock warrants	124,514,653	1,876,198
Common stock options	4,188,630	4,333,763
Total	184,281,566	6,774,769

Reclassifications

Certain comparative figures in 2019 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 August 2020, the FASB issued Accounting Standards Update No. 2020-06, Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40). The subtitle is Accounting for Convertible Instruments and Contracts in an Entity’s Own Equity. This Accounting Standard Update (“ASU”) addresses complex financial instruments that have characteristics of both debt and equity. The application of this ASU would reduce the number of accounting models for convertible debt instruments and convertible preferred stock. Limiting the accounting models would result in fewer embedded conversion features being separately recognized from the host contract as compared with current GAAP. Convertible instruments that continue to be subject to separation models are (1) those with embedded conversion features that are not clearly and closely related to the host contract, that meet the definition of a derivative, and that do not qualify for a scope exception from derivative accounting and (2) convertible debt instruments issued with substantial premiums for which the premiums are recorded as paid-in capital. The Company has historically issued complex financial instruments and has considered whether embedded conversion features have existed within those contracts or whether derivatives would appropriately be bifurcated. To date, no such bifurcation has been necessary. However, it is possible that this ASU may have a substantial impact on the Company’s financial statements. Management is evaluating the potential impact. This ASU becomes effective for fiscal years beginning after December 15, 2023.

In March 2020, The FASB issued Accounting Standards Update No. 2020-03, Codification Improvements to Financial Instruments. There are seven issues addressed in this update. Issues 1 through 5 were clarifications and codifications of previous updates. Issue 3 relates only to depository and lending institutions and therefore would not be applicable to the Company. Issue 6 was a clarification on determining the contractual term of a net investment in a lease for purposes of measuring expected credit losses, an issue not applicable to the Company. Issue 7 relates to the regaining control of financial assets sold and the recordation of an allowance for credit losses. The amendment related to issues 1, 2, 4 and 5 become effective immediately upon adoption of the update. Issue 3 becomes effective for fiscal years beginning after December 15, 2019. Issues 6 and 7 become effective on varying dates that relate to the dates of adoption other updates. Management’s initial analysis is that it does not believe the new guidance will substantially impact the Company’s financial statements.

In December 2019, the FASB issued an amendment to the guidance on income taxes which is intended to simplify the accounting for income taxes. The amendment eliminates certain exceptions related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period, and the recognition of the deferred tax liabilities for outside basis differences. The amendment also clarifies existing guidance related to the recognition of franchise tax, the evaluation of a step up in the tax basis of goodwill, and the effects of enacted changes in tax laws or rates in the effective tax rate computation, among other clarifications. The guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. Management is currently evaluating the impact the guidance will have on our consolidated financial statements.

In June 2016, the FASB issued an amendment to the guidance on the measurement of credit losses on financial instruments. The amendment updates the guidance for measuring and recording credit losses on financial assets measured and amortized cost by replacing the “incurred loss” model with an “expected loss” model. Accordingly, these financial assets will be presented at the net amount expected to be collected. The amendment also requires that credit losses related to available-for-sale debt securities be recorded as an allowance through net income rather than reducing the carrying amount under the current, other-than-temporary-impairment model. The guidance is effective for smaller reporting companies for fiscal years beginning after December 15, 2022 including interim periods within those fiscal years. Early adoption is permitted for annual periods after December 15, 2018. Management is currently evaluating the impact the guidance will have on our consolidated financial statements.

4. Notes Payable

Convertible Notes Payable

Q2 2020 Convertible Notes

RespireRx and Power Up Lending Group Ltd. (the “Lender”) entered into Securities Purchase Agreements, dated as of April 15, 2020 and June 7, 2020 (each, a “Power Up Agreement”), by which the Lender loaned \$53,000 and \$43,000, respectively, to RespireRx in return for two convertible promissory notes (the “April 2020 Note” and the “June 2020 Note” respectively), a limited guaranty associated with the April 2020 Note, and the delivery into escrow of a confession of judgment in favor of the Lender for the amount of the April 2020 Note plus fees and costs to be filed by the Lender upon the occurrence of an Event of Default (as defined in the April 2020 Note) and other transaction-related documents associated with both the April 2020 Note and the June 2020 Note. The proceeds of the loans, which equal \$90,000 after payment of \$5,000 in legal fees and \$1,000 in due diligence fees, are being used for general corporate purposes.

The April 2020 Note and the June 2020 Note will be payable on April 15, 2021 and June 7, 2021, respectively (each, a “Maturity Date”), and bear 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.

The Lender has the right, at any time during the period beginning on the date that is 180 days following the date of each of the notes and ending on the later of (i) the applicable Maturity Date and (ii) the date of payment of the Default Amount (as defined in the notes), to convert any outstanding and unpaid amount of the notes into shares of RespireRx’s common stock or securities convertible into RespireRx’s common stock (“2020 Note Conversion Shares”), provided that such conversion would not result in the Lender beneficially owning more than 4.99% of RespireRx’s common stock. Subject to certain limitations and adjustments as described in the notes, the Lender may convert at a per share conversion price equal to 61% of the lowest trading price of the common stock as reported by the exchange on which RespireRx’s shares are traded, for the twenty trading days prior to, but excluding, the day upon which a notice of conversion is received by RespireRx. Upon the conversion of all amounts due under each of the April 2020 Note and the June 2020 Note, each would be deemed repaid and terminated.

RespireRx may prepay the outstanding principal amount under the April 2020 Note and the June 2020 Note by paying a certain percentage of the sum of the outstanding principal, interest, default interest and other amounts owed. Such percentage varies from 120% to 145% depending on the period in which the prepayment occurs, as set forth in the April 2020 Note and June 2020 Note, respectively. During the period in which each note is outstanding, subject to certain limited exceptions, RespireRx must notify the Lender in advance of closing of any financing transactions with third party investors. At the Lender’s discretion, RespireRx must amend and restate each note, including its conversion terms, and the 2020 Note Conversion Shares to be identical to the instruments evidencing such financing transaction.

In consideration of and to induce the Lender to consummate the April 2020 Note referenced herein, the Chief Financial Officer of RespireRx (the “CFO”), on April 15, 2020, issued a limited guaranty in favor of the Lender whereby the CFO guaranteed to the Lender the prompt and full performance and observance by RespireRx of its obligation to promptly cooperate in processing all notices of conversions issued pursuant to the April 2020 Note.

Both the April 2020 Note and the June 2020 Note and the shares of common stock issuable upon conversion thereof were offered and sold to the Lender in reliance upon specific exemptions from the registration requirements of United States federal and state securities laws, which include Section 4(a)(2) of the Securities Act of 1933, as amended (the “1933 Act”), and Rule 506 promulgated by the SEC under the 1933 Act. Pursuant to these exemptions, the Lender represented to RespireRx under each Power Up Agreement, among other representations, that it was an “accredited investor” as that term is defined in Rule 501(a) of Regulation D under the 1933 Act.

The outstanding amounts of the April 2020 Note and June 2020 Note consist of the following at June 30, 2020 and December 31, 2019:

	June 30, 2020	December 31, 2019
Principal amount of notes payable	\$ 96,000	\$ -
Unamortized portion of note discounts	(82,254)	
Accrued interest payable	1,649	-
	<u>\$ 15,395</u>	<u>\$ -</u>

2019 Convertible Notes

On November 4, 2019, October 22, 2019, August 19, 2019, May 17, 2019 and April 24, 2019, the Company issued a series of convertible notes (“2019 Convertible Notes”), all similar in nature, all subject to debt issuance costs (“DIC”) and original issue discount (“OID”) and beneficial conversion (“BCF”) features and some subject to the issuance of warrants (“NW”) and/or commitment shares (“CS”) and placement agent fees. Two of the notes had maturity dates nine months after issuance and three were for one year. One note was a master note agreement in the amount of \$150,000, but with an initial drawdown of \$50,000. The Company evaluated all of the terms of the 2019 Convertible Notes and determined that, in accordance with ASC 815, there were no derivatives to be bifurcated or separately valued. Each of the April, 24, 2019, August 19, 2019 and October 22, 2019 Convertible Notes was satisfied in full by the lenders electing to convert the outstanding balances to common stock during the six-months ended June 30, 2020 and the May 17, 2019 Convertible Note, the maturity date of which was extended to November 17, 2020, was satisfied in full by the lenders electing to convert the outstanding balances to common stock during the three-months ended June 30, 2020, except for \$2,747 of accrued interest that remains outstanding. The 2019 Convertible Notes that have balances outstanding as of June 30, 2020 are summarized in the table below.

Inception date	Maturity date	Original principal amount	Interest rate	Original aggregate DIC, OID, BCF, NW and CS	Cumulative amortization of DIC, OID, BCF, NW and CS	Principal remaining at June 30, 2020	Accrued Interest at June 30, 2020	Balance sheet carrying amount at June 30, 2020 inclusive of accrued interest
November 4, 2019	November 4, 2020	\$ 170,000	10%	\$ 170,000	\$ 148,211	\$ 30,500	\$ 1,964	\$ 10,675
May 17, 2019	May 17, 2020, extended to November 17, 2020	\$ 50,000	10%	\$ 50,000	\$ 50,000	\$ -	\$ 2,747	\$ 2,747
Total		<u>\$ 220,000</u>		<u>\$ 220,000</u>	<u>\$ 198,211</u>	<u>\$ 30,500</u>	<u>\$ 4,711</u>	<u>\$ 13,422</u>

2018 Q4 and 2019 Q1 Notes and Original Convertible Notes

On December 6, 2018, December 7, 2018 and December 31, 2018 the Company issued convertible notes (each a “2018 Q4 Note”) and on January 2, 2019, February 27, 2019, March 6, 2019 and March 14, 2019, the Company issued additional convertible notes (each a “2019 Q1 Note”, respectively and collectively with the “2018 Q4, the “2018 Q4 and 2019 Q1 Notes”) bearing interest at 10% per year. All of the 2018 Q4 and 2019 Q1 Notes matured on either February 28, 2019 or April 30, 2019. The original aggregate principal amount was \$190,000. None of the 2018 Q4 and 2019 Q1 Notes were repaid at maturity. The 2018 Q4 and 2019 Q1 Note investors also received an aggregate of 190,000 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 \$146,805. Total value received by the investors was \$336,805, the sum of the face value of the convertible note and the value of the warrant. Therefore, the Company recorded a debt discount associated with the warrant issuance of \$82,159 and an initial value of the convertible notes of \$107,841 using the relative fair value method. All debt discounts were fully amortized by the original maturity dates. On March 21, 2020, all except one of the 2018 Q4 and 2019 Q1 Note holders exchanged the outstanding principal amount and accrued interest for shares of common stock. The exchange price was \$0.015 per share of common stock. The closing price on March 20, 2020, the last trading day before the closing of the exchange agreements which took place on a Saturday, was \$0.034 per share of common stock. An aggregate of \$155,000 of principal and \$17,911 of accrued interest was exchanged for 11,527,407 shares of common stock. The Company recorded a loss on the extinguishment of the exchanged 2018 Q4 Notes and 2019 Q1 Notes of \$219,021. As of June 30, 2020, there remains one outstanding 2018 Q4 Note and one outstanding 2019 Q1 Note, both held by the same single investor, with an aggregate principal amount of \$35,000 and aggregate accrued interest of \$5,321 as of June 30, 2020. The 2019 Convertible Notes discussed above, which the Company does not consider to have arisen from one or more offerings, may be interpreted in such a way that the remaining 2018 Q4 Note and 2019 Q1 Note holders had the right to convert or exchange into such notes. However, no holder of the Q4 2018 and 2019 Notes has requested such a conversion or exchange. The Company does not believe that an offering occurred as of June 30, 2020 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 remaining 2018 Q4 Note and the remaining 2019 Q1 Note may convert is not determinable and the Company has not accounted for any additional consideration. The warrants to purchase 190,000 shares of common stock issued in connection with the sale of the 2018 Q4 and 2019 Q1 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 warrants issued to the Q4 2018 and Q1 2019 Note holders expire on December 30, 2023. The Company determined that there were no embedded derivatives to be identified, bifurcated and valued in connection with this financing.

The 2018 Q4 Notes and 2019 Q1 Notes consist of the following at June 30, 2020 and December 31, 2019:

	June 30, 2020	December 31, 2019
Principal amount of notes payable	\$ 35,000	\$ 190,000
Accrued interest payable	5,321	17,976
	<u>\$ 40,321</u>	<u>\$ 207,976</u>

Other convertible notes were also sold to investors in 2014 and 2015 (the “Original Convertible Notes), which aggregated a total of \$579,500, and had a fixed interest rate of 10% per annum. 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 shares of common stock issued in connection with the sale of the Original Convertible Notes have either been exchanged for common stock or expired.

On March 21, 2020, the holder of one of the Original Convertible Notes exchanged \$50,000 of principal and \$32,875 of accrued interest for 5,525,017 shares of the Company’s common stock. The exchange price was \$0.015 per share of common stock. The closing price on March 20, 2020, the last trading day before the closing of the exchange agreements, was \$0.034 per share of common stock. The Company recorded a loss on the extinguishment of the exchanged Original Convertible Note of \$104,975.

The remaining outstanding Original Convertible Notes (including that for which a default notice has been received) consist of the following at June 30, 2020 and December 31, 2019:

	June 30, 2020	December 31, 2019
Principal amount of notes payable	\$ 75,000	\$ 125,000
Accrued interest payable	57,616	82,060
	<u>\$ 132,616</u>	<u>\$ 207,060</u>

As of June 30, 2020, principal and accrued interest on the Original Convertible Note that is subject to a default notice accrues annual interest at 12% instead of 10%, totalled \$46,230, of which \$21,230 was accrued interest. As of December 31, 2019, principal and accrued interest on Original Convertible Notes subject to default notices totalled \$43,666 of which \$18,666 was accrued interest.

As of June 30,2020 all of the outstanding Original Convertible Notes, inclusive of accrued interest, were convertible into an aggregate of 11,658 shares of the Company’s common stock. 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 Original Convertible 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 as of that date) 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 six-months ended June 30, 2020, 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 AMPAkinine compounds and the low impact AMPAkinine compounds CX2007 and CX2076, and other related compounds. The security interest does not extend to the Company’s patents for its AMPAkinine compounds CX1739 and CX1942, or to the patent for the use of AMPAkinine compounds for the treatment of respiratory depression.

Note payable to SY Corporation consists of the following at June 30, 2020 and December 31, 2019:

	June 30, 2020	December 31, 2019
Principal amount of note payable	\$ 399,774	\$ 399,774
Accrued interest payable	387,201	363,280
Foreign currency transaction adjustment	(26,760)	3,182
	<u>\$ 760,215</u>	<u>\$ 766,236</u>

Interest expense with respect to this promissory note was \$11,960 and \$11,829 for the three-months and was \$23,921 and \$23,789 for the six months ended June 30, 2020 and 2019, respectively.

Notes Payable to Officers and Former Officers

For the three-months ended June 30, 2020 and 2019, \$2,817 and \$2,561 and for the six-months ended June 30, 2020, \$5,633 and \$5,094 was charged to interest expense with respect to Dr. Arnold S. Lippa's notes, respectively.

For the three-months ended June 30, 2020 and 2019, \$4,228 and \$3,843 and for the six-months ended June 30, 2020, \$8,439 and \$7,645 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. All of the interest expense noted above for the six-months ended June 30, 2020 and 2019, was incurred while Dr. Manuso was no longer an officer.

Other Short-Term Notes Payable

Other short-term notes payable at June 30, 2020 and December 31, 2019 consisted of premium financing agreements with respect to various insurance policies. At June 30, 2020, a premium financing agreement was payable in the initial amount of \$70,762, with interest at 11% per annum, in nine monthly installments of \$8,256. In addition, there is a balance of \$11,532 of short-term financing of office and clinical trials insurance premiums that includes a prior period premium financing of \$2,317. At June 30, 2020 and December 31, 2019, the aggregate amount of the short-term notes payable was \$67,262 and \$4,635 respectively.

5. Settlement and Payment Agreements

On December 16, 2019, RespireRx and Salamandra, LLC ("Salamandra") entered into an amendment to the settlement agreement and release, executed August 21, 2019 (the "Original Settlement Agreement" and as amended, the "Amended Settlement Agreement") regarding \$202,395 owed by the Company to Salamandra (as reduced by any further payments by the Company to Salamandra, the "Full Amount") in connection with an arbitration award previously granted in favor of Salamandra in the Superior Court of New Jersey. Under the terms of the Original Settlement Agreement, the Company was to pay Salamandra \$125,000 on or before November 30, 2019 in full satisfaction of the Full Amount owed, subject to conditions regarding the Company's ability to raise certain dollar amounts of working capital. Under the Amended Settlement Agreement, (i) the Company was to pay and the Company paid to Salamandra \$25,000 on or before December 21, 2019, (ii) upon such payment, Salamandra ceased all collection efforts against the Company until March 31, 2020 (the "Threshold Date"), and (iii) the Company was to pay to Salamandra \$100,000 on or before the Threshold Date if the Company had at that time raised \$600,000 in working capital. Such payments by the Company would have constituted satisfaction of the Full Amount owed and would have served as consideration for the dismissal of the action underlying the arbitration award and the mutual releases set forth in the Amended Settlement Agreement. If the Company had raised less than \$600,000 in working capital before the Threshold Date, the Company was to pay to Salamandra an amount equal to 21% of the working capital amount raised, in which case such payment would have reduced the Full Amount owed on a dollar-for-dollar basis, and Salamandra would then have been able to seek collection on the remainder of the debt. The Company made the initial payment of \$25,000 in December 2019, but did not make the subsequent required payment on March 31, 2020, nor has any payment been made during the three-months ended June 30, 2020. The Company has initiated further discussions with the intent of reaching a revised settlement agreement which cannot be assured.

In June 2020, the Company made a settlement proposal to a vendor, the terms of which, if accepted by the vendor would supersede a prior agreement in principle originally reached on September 23, 2019 regarding the payment schedule of undisputed amounts owed by the Company to the vendor. The current proposal includes, among other things, an extension of time until December 31, 2020 to raise the amounts owed. Neither the original agreement in principle nor the discussion of amendments has resulted in a formal agreement. The original agreement in principle called for a payment of a minimum of \$100,000 on or before November 30, 2019 assuming the Company had raised at least \$600,000 by that date and thereafter called for a payment of \$50,000 per month until paid in full. No payments had been made through June 30, 2020 with respect to the original agreement in principle. The currently proposed settlement has not yet been accepted and is being reviewed by the vendor and calls for a payment of \$100,000 if RespireRx is able to raise \$700,000 by December 31, 2020 with subsequent settlement payments of \$50,000 per month with a residual final payment of less than \$50,000 representing the remaining balance. Under the proposal, if RespireRx raises less than \$700,000 by December 31, 2020, the Company may cancel a portion of the amount owed to the vendor by paying at least 21% of the working capital raised which amount would reduce the amount owed dollar-for-dollar and the vendor would be able to seek collection of the balance.

The due date of the \$100,000 annual amount payable to the University of Illinois that was originally due on December 31, 2019 pursuant to the 2014 License Agreement (as defined below), was extended to June 30, 2020 and further extended to July 7, 2020 when it was paid in full (See Note 9. Subsequent Events).

6. Stockholders’ Deficiency

Reserved and Unreserved Shares of Common Stock

At June 30, 2020, RespireRx had 1,000,000,000 shares of common stock authorized and 222,307,381 shares of common stock issued and outstanding. RespireRx has reserved 11 shares of common stock for conversion of the Series B Preferred Stock, 55,578,263 shares of common stock for conversion of various convertible notes, 124,514,653 for warrant exercises and 4,188,630 for the exercise of outstanding options. RespireRx has reserved 63,236 shares of common stock with respect unissued shares available for issuance from the 2014 Plan and 54,427,342 shares of common stock with respect to unissued shares available for issuance from the 2015 Plan. RespireRx has reserved 6,497 Pier Contingent shares. There are 538,913,987 shares of common stock available for issuance. The above amounts do not include contractual reserve requirements of certain convertible notes and exercisable warrants in excess of actual conversion or exercise amounts. RespireRx believes that the common stock available for issuance is adequate to meet the contractual reserve requirements at all times.

Preferred Stock

RespireRx has authorized a total of 5,000,000 shares of preferred stock, par value \$0.001 per share. As of June 30, 2020 and December 31, 2019, 1,250,000 shares were designated as 9% Cumulative Convertible 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; and 1,700 shares were designated as Series G 1.5% Convertible Preferred Stock. Accordingly, as of June 30, 2020 and December 31, 2019, 3,505,800 shares of preferred stock were undesignated and were able to be issued with such rights and powers as the Board of Directors may designate. On July 13, 2020, RespireRx designated 1,200 shares of Series H, Voting, Non-participating, Convertible Preferred Stock (“Series H Preferred Stock”) reducing the number of shares of preferred stock that were undesignated to 3,504,600 as of July 13, 2020 (See Note 9. Subsequent Events).

Series B Preferred Stock outstanding as of June 30, 2020 and 2019 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 June 30, 2020 and December 31, 2019, the shares of Series B Preferred Stock outstanding are convertible into 11 shares of common stock. RespireRx 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 were 222,307,381 shares of RespireRx’s Common Stock outstanding as of June 30, 2020. As of March 31, 2020, RespireRx did not have enough authorized shares to reserve for all conversions of convertible debt as well as common stock purchase options and warrants exercises. Assuming everything had been reserved, there would have been no shares of RespireRx’s common stock available for future issuances. On March 21, 2020, the Board of Directors approved an amendment to the Certificate of Incorporation to increase the authorized shares of common stock from 65,000,000 shares to 1,000,000,000 (one billion) shares subject to approval by the holders of a majority of voting stock of RespireRx, appropriate notification of all shareholders and subject to the authorized officers making the appropriate filings with the Secretary of State of the State of Delaware. On March 22, 2020, holders of a majority of voting stock of RespireRx consented to this increase in writing without a meeting. The amendment to the Certificate of Incorporation and increase in the number of authorized shares of common stock became effective on April 30, 2020 when RespireRx filed the amendment with the Secretary of State of Delaware.

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 Notes Payable.

A summary of warrant activity for the six-months ended June 30, 2020 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Warrants outstanding at December 31, 2019	2,191,043	\$ 1.87109	3.44000
Warrants issued due to anti-dilution provisions increasing number of originally issued warrants included in December 31, 2019 balance	138,824,795	0.00153	3.70650
Exercised	(16,501,185)	0.00157	-
Warrants outstanding and exercisable at June 30, 2020	124,514,653	\$ 0.03272	3.78506

The exercise prices of common stock warrants outstanding and exercisable are as follows at June 30, 2020:

Exercise Price	Warrants Outstanding (Shares)	Warrants Exercisable (Shares)	Expiration Date
\$ 0.001485	58,922,559	58,922,559	October 22, 2024
\$ 0.001530	41,643,423	41,643,423	August 19, 2024
\$ 0.001600	22,125,000	22,125,000	May 17, 2022
\$ 1.000000	916,217	916,217	September 20, 2022
\$ 1.500000	190,000	190,000	December 30, 2023
\$ 1.562000	130,284	130,284	December 31, 2021
\$ 1.575000	238,814	238,814	April 30, 2023
\$ 2.750000	8,000	8000	September 20, 2022
\$ 4.875000	108,594	108,594	September 30, 2020
\$ 6.834800	145,758	145,758	September 30, 2020
\$ 7.930000	86,004	86,004	February 28, 2021
	124,514,653	124,514,653	

Based on a value of \$0.0064 per share on June 30, 2020, there were 122,690,982 exercisable in-the-money common stock warrants as of June 30, 2020.

A summary of warrant activity for the six months ended June 30, 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	3.06
Issued	152,372	1.41101	
Expired	(59,403)	2.65928	
Warrants outstanding at June 30, 2019	1,876,198	\$ 2.12512	2.79
Warrants exercisable at June 30, 2019	1,876,198	\$ 2.12512	2.79

The exercise prices of common stock warrants outstanding and exercisable are as follows at June 30, 2019:

Exercise Price	Warrants Outstanding (Shares)	Warrants Exercisable (Shares)	Expiration Date
\$ 1.0000	916,217	916,217	September 20, 2022
\$ 1.1800	42,372	42,372	May 17, 2022
\$ 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	8,000	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
	<u>1,876,198</u>	<u>1,876,198</u>	

Based on a fair market value of \$0.70 per share on June 30, 2019, there was no intrinsic value of exercisable in-the-money common stock warrants as of June 30, 2019.

Stock Options

On March 18, 2014, RespireRx adopted its 2014 Equity, Equity-Linked and Equity Derivative Incentive Plan (the “2014 Plan”). 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 (as amended, the “2015 Plan”). As of March 31, 2020, there were 8,985,260 shares that may be issued under the 2015 Plan. On May 5, 2020 the Board of Directors increased the number of shares that may be issued under the 2015 Plan to 58,985,260. On July 31, 2020 the Board of Directors increased the number of shares that may be issued under the 2015 Plan to 158,985, 260. (See Note 9. Subsequent Events). The Company has not and does not intend to present the 2015 Plan to stockholders for approval.

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.

There were no stock or stock option grants during the three-months and six months ended June 30, 2020 or in the three-months and six-months ended June 30, 2019.

See Note 9. Subsequent Events for a description of stock options granted on July 31, 2020.

Information with respect to the Black-Scholes variables used in connection with the evaluation of the fair value of stock-based compensation costs and fees is provided at Note 3 Summary of Significant Accounting Policies.

A summary of stock option activity for the six-months ended June 30, 2020 is presented below.

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)
Options outstanding at December 31, 2019	4,287,609	\$ 3.3798	4.98
Expired	(98,979)	6.6242	-
Options outstanding at June 30, 2020	4,188,630	\$ 3.3031	4.59
Options exercisable at June 30, 2020	4,188,630	\$ 3.3031	4.59

The exercise prices of common stock options outstanding and exercisable were as follows at June 30, 2020:

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
\$ 5.7500	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
\$ 13.9750	3,385	3,385	March 14, 2024
\$ 15.9250	2,462	2,462	February 28, 2024
\$ 19.5000	9,487	9,487	July 17, 2022
\$ 19.5000	6,410	6,410	August 10, 2022
	4,188,630	4,188,630	

There was no deferred compensation expense for the outstanding and unvested stock options at June 30, 2020.

Based on a fair value of \$0.0064 per share on June 30, 2020, there were no exercisable in-the-money common stock options as of June 30, 2020.

7. Related Party Transactions

Dr. Arnold S. Lipa and Jeff E. Margolis, officers and directors of RespireRx since March 22, 2013, have indirect ownership and managing membership interests 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. Notes Payable.

8. Commitments and Contingencies

Pending or Threatened Legal Action and Claims

On February 21, 2020, Sharp Clinical Services, Inc., a vendor of RespireRx, filed a complaint against RespireRx in the Superior Court of New Jersey Law Division, Bergen County related to a December 16, 2019 demand for payment of past due invoices inclusive of late fees totaling \$103,890 of which \$3,631 relates to late fees, seeking \$100,259 plus 1.5% interest per month on outstanding unpaid invoices. Amid settlement discussions, the vendor stated on March 13, 2020 its intent to proceed to a default judgment against the Company, and the Company stated on March 14, 2020 its intent to continue settlement discussions. On May 29, 2020, a default was entered against RespireRx. As of June 30, 2020, the Company had recorded accounts payable of \$99,959 to such vendor, an amount considered by the Company to be reasonable given the settlement discussions that were ongoing at that time. On August 18, 2020, RespireRx communicated with Sharp Clinical Services, Inc. in an attempt to continue settlement discussions.

Related to the Salamandra matter described in Note 5. Settlements and Payments Agreements, and preceding the settlement discussions, by letter dated February 5, 2016, the Company received a demand from a law firm representing Salamandra alleging an amount due and owing for unpaid services rendered. On January 18, 2017, following an arbitration proceeding, an arbitrator awarded the vendor the full amount sought in arbitration of \$146,082. Additionally, the arbitrator granted the vendor attorneys' fees and costs of \$47,937. All such amounts have been accrued at June 30, 2020 and December 31, 2019, including accrued interest at 4.5% annually from February 26, 2018, the date of the judgment, through June 30, 2020, totalling \$20,736.

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 Company has re-evaluated that portion of its AMPAkine program and has decided not to enter into a new agreement at this time. The lack of entry into a new agreement at this time does not affect the Company's other AMPAkine programs and permits the Company to reallocate resources to those programs, including, but not limited to ADHD, SCI, FXS and others.

By email 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 June 30, 2020 and December 31, 2019.

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 June 30, 2020 and December 31, 2019 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. See Note 5. Settlement and Payment Agreements for additional items and details.

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. Stockholders' Deficiency. Cash compensation expense pursuant to this agreement totalled \$37,500 and \$75,000 for the three-months and six-months ended June 30, 2020 and 2019, which is included in research and development expenses in the Company's consolidated statements of operations for such periods.

Employment Agreements

Effective on May 6, 2020, Timothy Jones was appointed as RespireRx's President and Chief Executive Officer and entered into an employment agreement as of that date. In addition, Mr. Jones has continued to serve as a member of the Company's Board of Directors, a position he has held since January 28, 2020. On November 19, 2019, Mr. Jones became an advisor to the Company's Board of Directors, a position he held until January 27, 2020. Under the employment agreement, a provisional period of "at will" employment was to expire on July 31, 2020. Neither party terminated the employment agreement prior to July 31, 2020, and on that date all rights and obligations under the agreement were deemed effective, including with respect to the certain economic obligations of the Company upon termination of Mr. Jones' employment. The Board of Directors and Mr. Jones agreed to continue the employment agreement after the initial provisional period. The employment agreement has a termination date of September 30, 2023 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. On July 31, 2020, the employment agreement was amended. The terms of the amended agreement call for a base salary through September 30, 2020 of \$300,000 per year which may remain accrued but unpaid at the discretion of the Board of Directors until such time as at least \$2,500,000 has been raised. If \$10,000,000 or more has been raised by September 30, 2021, Mr. Jones' base salary would be increased to \$375,000 per year. Otherwise, it would remain at \$300,000 annually unless increased pursuant to the employment agreement or by the Board of Directors. Mr. Jones' base salary is subject to cost of living increases. Since the expiration of the provisional period, Mr. Jones is eligible for a guaranteed bonus of \$200,000 on October 31, 2020, \$200,000 on March 31, 2021 and \$150,000 each six months thereafter on each March 31st and September 30th thereafter, unless the agreement is earlier terminated. At the end of the provisional period, pursuant to the employment agreement, Mr. Jones was granted an option grant for the purchase of 1,000,000 shares of the Company's common stock upon the expiration of the provisional period. In addition, until such time as the Company establishes comparable benefits, Mr. Jones is entitled to \$1,200 per month on a tax equalized basis for health insurance and \$1,000 per month on a tax equalized basis for term life insurance plus a disability policy. Mr. Jones is entitled to be reimbursed for business expenses. Mr. Jones would be entitled to a \$12,000 tax equalized annual automobile allowance after the Company has raised \$10,000,000. In addition, on July 31, 2020, the Board of Directors granted Mr. Jones a discretionary bonus that was a grant of an option to purchase 16,000,000 shares of common stock expiring on July 31, 2025 at an exercise price equal to the closing price of the Company's common stock on July 31, 2020 of \$0.0072, 25% of which vested immediately and 25% of which will vest on each of September 30, 2020, December 31, 2020 and March 31, 2021. Upon commencement of Mr. Jones' employment agreement on May 6, 2020, Mr. Jones was no longer eligible to receive fees for his participation as a member of the Board of Directors. From January 1, 2020 to January 27, 2020, while Mr. Jones was an advisor to the Company's Board of Directors, the Company accrued \$3,484 for Mr. Jones' advisory fees. From January 28, 2020 to May 5, 2020, the Company accrued \$16,734 of fees for Mr. Jones' participation as a member of the Board of Directors and \$0 thereafter. From May 6, 2020 to June 30, 2020, the Company accrued \$49,525 for Mr. Jones' compensation and related benefits. These amounts are included in accounts payable and accrued expenses and in accrued compensation in the Company's Condensed Consolidated Balance Sheet as of June 30, 2020.

Effective May 6, 2020, with the appointment of Timothy Jones as RespireRx's President and Chief Executive Officer, Dr. Lippa resigned the interim officer positions of Interim Chief Executive Officer and Interim President, positions that Dr. Lippa has assumed on October 12, 2018 after the resignation of Dr. James Manuso on September 30, 2018. Dr. Lippa continues to serve as RespireRx's Executive Chairman and as a member of the Board of Directors as well as the Company's Chief Scientific Officer. Dr. Lippa has been granted stock options on several occasions and is eligible to receive additional awards under RespireRx's 2014 Plan and 2015 Plan at the discretion of the Board of Directors. Dr. Lippa did not receive any option to purchase shares of common stock during the three-month and six-month periods ending June 30, 2020. Additional information with respect to the stock options granted to Dr. Lippa is provided at Note 6 Stockholders' Deficiency. Dr. Lippa is also entitled to receive, until such time as RespireRx 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. Cash compensation inclusive of employee benefits accrued pursuant to this agreement totalled \$84,900 and \$169,800 for each of the three-months and six-months ended June 30, 2020 and 2019, respectively. Dr. Lippa's cash compensation is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet at June 30, 2020 and in research and development expenses in the Company's condensed consolidated statement of operations for the three-months and six-months ended June 30, 2020 and 2019. Dr. Lippa does not receive any additional compensation for serving as Executive Chairman and on the Board of Directors. On July 13, 2020, Dr. Lippa forgave \$600,000 of accrued compensation and benefits and in exchange received 600 shares of Series H Preferred Stock (See Note 9. Subsequent Events).

Jeff E. Margolis currently serves as the Company's Senior Vice President, Chief Financial Officer, Treasurer and Secretary. On August 18, 2015, the Company entered into an employment agreement with Mr. Margolis in his role at that time as Vice President, Secretary and Treasurer. Pursuant to the agreement, which was for an initial term through September 30, 2016 and later amended (and which automatically extended on September 30, 2016, 2017, 2018 and 2019 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 receives an annual base salary of \$300,000, and is eligible to receive performance-based annual bonus awards 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. Additionally, Mr. Margolis has been granted stock options on several occasions 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, which \$1,000 per month obligation has been waived by Mr. Margolis until Mr. Margolis notifies the Company of the rescission of the waiver. 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 Stockholders' Deficiency. Recurring cash compensation accrued pursuant to this amended agreement totalled \$80,400 and \$169,800 for the three-months and six-months ended June 30, 2020 and 2019, respectively. Mr. Margolis' cash compensation is included in accrued compensation and related expenses in the Company's condensed consolidated balance sheet as of June 30, 2020 and December 31, 2019, and in general and administrative expenses in the Company's condensed consolidated statement of operations. Mr. Margolis does not receive any additional compensation for serving on the Company's Board of Directors. On July 13, 2020, Mr. Margolis forgave \$500,000 of accrued compensation and benefits and in exchange received 500 shares of Series H Preferred Stock (See Note 9. Subsequent Events).

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), 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 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 2014 License Agreement granted the Company (i) exclusive rights to several issued and pending patents in several 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 (Δ^9 -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 that commenced 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, 2019, was extended to June 30, 2020 and further extended to July 7, 2020 when the obligation was paid (See Note 9. Subsequent Events). 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.

During each of the three-months and six-months ended June 30, 2020 and 2019, the Company recorded charges to operations of \$25,000, respectively, with respect to its 2020 and 2019 minimum annual royalty obligation, which is included in research and development expenses in the Company's condensed consolidated statement of operations for the three-months and six-months ended June 30, 2020 and 2019, respectively.

UWM Research Foundation Patent License Agreement

On August 1, 2020, RespireRx exercised its option pursuant to its option agreement dated March 2, 2020, between RespireRx and UWM Research Foundation, an affiliate of the University of Wisconsin-Milwaukee ("UWMRF"). Upon exercise RespireRx and UWMRF executed the UWMRF Patent License Agreement effective August 1, 2020 pursuant to which RespireRx licensed the identified intellectual property.

Under the UWMRF Patent License Agreement, the Company has an exclusive license to commercialize GABAKine products based on UWMRF's rights in certain patents and patent applications, and a non-exclusive license to commercialize products based on UWMRF's rights in certain technology that is not the subject of the patents or patent applications. UWMRF maintains the right to use, and, upon the approval of the Company, to license, these patent and technology rights for any non-commercial purpose, including research and education. The UWMRF Patent License Agreement expires upon the later of the expiration of the Company's payment obligations to UWMRF or the expiration of the last remaining licensed patent granted thereunder, subject to early termination upon the occurrence of certain events. The License Agreement also contains a standard indemnification provision in favor of UWMRF and confidentiality provisions obligating both parties. For additional details, see Note 9. Subsequent Events - *Exercise of Option pursuant to Option Agreement with UWMRF and Commencement of UWMRF Patent License Agreement*.

Noramco Inc./Purisys, LLC - Dronabinol Development and Supply Agreement

On September 4, 2018, RespireRx entered into a dronabinol Development and Supply Agreement with Noramco Inc., one of the world’s major dronabinol manufacturers. Noramco subsequently assigned this agreement (as assigned, the “Purisys Agreement”) to its subsidiary, Purisys, LLC (“Purisys”). Under the terms of the Purisys Agreement, Purisys 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 New Drug Application (“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 to purchase exclusively from Purisys 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 agreed to Purisys’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.

Transactions with Bausch Health Companies Inc.

Beginning in March 2010, the Company entered into a series of asset purchase and license agreements with Biovail Laboratories International SRL, which after its merger with Valeant Pharmaceuticals International, Inc. was later renamed Bausch Health Companies Inc. (“Bausch”).

In March 2011, the Company entered into a new agreement with Bausch to re-acquire the AMPAkin compounds, patents and rights that Bausch had acquired from the Company in March 2010. The new agreement provided for potential future payments of up to \$15,150,000 by the Company based upon the achievement of certain developments, including NDA submissions and approval milestones pertaining to an intravenous dosage form of the AMPAkin compounds for respiratory depression, a therapeutic area not currently pursued by the Company. Bausch is also eligible to receive additional payments of up to \$15,000,000 from the Company based upon the Company’s net sales of an intravenous dosage form of these compounds for respiratory depression.

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 June 30, 2020, aggregating \$2,289,770. License agreement amounts included in the 2020 column represents amounts contractually due from July 1, 2020 through December 31, 2020 (six months) and in each of the subsequent years, represents the full year. Employment agreement amounts included in the 2020 column represent amounts contractually due from July 1, 2020 through September 30, 2020 (three months) and in one case through September 30, 2023 when such contracts expire unless extended pursuant to the terms of the contracts.

	Total	Payments Due By Year				
		2020	2021	2022	2023	2024
License agreements	\$ 510,370	\$ 50,000	\$ 115,092	\$ 115,093	\$ 130,185	\$ 100,000
Employment agreements (1)	1,779,400	450,200	689,600	639,600	554,700	-
Total	\$2,289,770	\$500,200	\$739,600	\$654,700	\$100,000	\$100,000

(1) The payment of amounts related to Dr. Lippa and Mr. Margolis have been deferred indefinitely, as described above at “Employment Agreements.” The payment amounts to Mr. Jones have been deferred pending the Company achieving certain financing thresholds as described above at “Employment Agreements.” The 2020 amounts include three-months of employment agreement obligations for Dr. Lippa, Mr. Jones and Mr. Margolis as their employment contracts renewed on September 30, 2019 and the 2020 obligations include the three months of obligations through September 30, 2020. In the case of Mr. Jones, the obligations extend through the first renewal date of his employment contract which is September 30, 2023. Also, in the case of Mr. Jones, guaranteed bonus obligations are included in the periods in which such amounts are due.

9. Subsequent Events

Convertible Notes

FirstFire Global Opportunities Fund LLC

On July 2, 2020, RespireRx and FirstFire Global Opportunities Fund LLC (“FF”) entered into a Securities Purchase Agreement (the “FF SPA”) by which FF provided a sum of \$125,000 to the Company, in return for a convertible promissory note with a face amount of \$137,500 (which difference in value as compared to the consideration is due to an original issue discount of \$12,500), a common stock purchase warrant for 6,875,000 shares of the Company’s common stock (the “FF Warrant”), and the Confession of Judgment (as defined below), among other agreements and obligations.

The note obligates the Company to pay interest at a rate of 10% per annum on any unpaid principal since July 2, 2020, and to make five monthly amortization payments in the amount of \$30,250 each, with the first such payment due on December 2, 2020, and the final such payment, along with any unpaid principal and any accrued and unpaid interest and other fees, due on April 2, 2021. Any amount of principal or interest that is not paid when due bears interest at the rate of the lesser of 24% and the maximum amount permitted by law, from the due date to the date such amount is paid.

FF has the right, at any time, to convert any outstanding and unpaid amount of the note 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 FF beneficially owning more than 4.99% of the Company’s then outstanding shares of common stock. Subject to certain limitations and adjustments as described in the note, FF may convert at a per share conversion price equal to \$0.02, provided that upon any event of default (as defined in the note), the conversion price will equal the lower of (i) the fixed conversion price, (ii) discount to market based upon subsequent financings with other investors, or (iii) 60% multiplied by the lowest traded price of the common stock of the Company during the twenty-one consecutive trading day (as defined in the note) period immediately preceding the date of such conversion. Upon such conversion, all rights with respect to the portion of the note being so converted terminate, except for the right to receive the Company’s common stock or other securities, cash or other assets as provided in the note due upon such conversion.

The Company may, with prior written notice to FF, prepay the outstanding principal amount under the note during the initial 180 day period after the Effective Date by making a payment to FF of an amount in cash equal to a certain percentage of the outstanding principal, interest, default interest and other amounts owed. Such percentage varies from 105% to 115% depending on the period in which the prepayment occurs, as set forth in the note.

The FF SPA provides FF with certain participation rights in any subsequent offering of debt or equity. Under the FF SPA, the Company may not enter into an offering of its securities with terms that would benefit an investor more than FF is benefited under the FF SPA and the agreements ancillary thereto, unless the Company offers FF those same terms. The FF SPA also grants FF certain registration rights.

The FF Warrant is a common stock purchase warrant to purchase 6,875,000 shares of the Company's common stock, for value received in connection with the issuance of the note, from the date of issuance of the FF Warrant until September 30, 2023, at an exercise price of \$0.007 (subject to adjustment as provided therein) per share of common stock.

Additionally, the Company provided a confession of judgment (the "Confession of Judgment") in favor of FF for the amount of the note plus fees and costs, to be filed pursuant to the terms and conditions of the FF SPA and the note.

The note and the shares of the Company's common stock issuable upon its conversion were offered and sold to FF in reliance upon specific exemptions from the registration requirements of United States federal and state securities laws, which include Section 4(a)(2) of the 1933 Act, and Rule 506(b) promulgated by the SEC under the 1933 Act. Pursuant to these exemptions, FF represented to the Company under the FF SPA, among other representations, that it was an "accredited investor" as that term is defined in Rule 501(a) of Regulation D under the 1933 Act.

EMA Financial, LLC

On July 30, 2020, the Company and EMA Financial, LLC ("EMA") entered into a securities purchase Agreement (the "EMA SPA") by which EMA provided a sum of \$68,250 to the Company, in return for a convertible note with a face amount of \$75,000, and a common stock purchase warrant (the "EMA Warrant") for 3,750,000 shares of the Company's common stock.

The note obligates the Company to pay by October 30, 2021 a principal amount of \$75,000 together with interest at a rate equal to 10% per annum, which principal exceeds the consideration by the amount of an original issue discount of \$6,750. Any amount of principal or interest that is not paid by the maturity date would bear interest at the rate of 24% from the maturity date to the date such amount is paid.

EMA has the right, in its discretion, at any time, to convert any outstanding and unpaid amount of the note into shares of common stock, provided that such conversion would not result in EMA beneficially owning more than 4.99% of the Company's then outstanding common stock. In the absence of an event of default (as defined in the note), EMA may convert at a per share conversion price equal to \$0.02, subject to a retroactive downward adjustment if the lowest traded price on each of the three consecutive trading days following such conversion is lower than \$0.02. Upon an event of default, the conversion price is to be adjusted downward based on a discount to market with respect to subsequent financings or a percentage of the lowest traded price during the twenty-one day period prior to the conversion, if lower than \$0.02. Upon such conversion, all rights with respect to the portion of the note being so converted terminate, except for the right to receive common stock or other securities, cash or other assets as provided in the note due upon such conversion.

The Company may, with prior written notice to EMA, prepay the outstanding principal amount under the Note during the initial 180 day period after July 30, 2020 by making a payment to EMA of an amount in cash equal to a certain percentage of the outstanding principal, interest, default interest and other amounts owed. Such percentage varies from 110% to 115% depending on the period in which the prepayment occurs, as set forth in the note.

If, prior to the repayment or conversion of the note, the Company consummates a registered, qualified or unregistered primary offering of its securities for capital raising purposes with aggregate net proceeds in excess of \$2,500,000, EMA will have the right, in its discretion, to demand repayment in full of any outstanding principal, interest (including default interest) under the note as of the closing date of such offering.

The EMA SPA includes, among other things: (1) an automatic adjustment to the terms of the EMA SPA and related documents to the terms of a future financing if those terms are more beneficial to an investor than the terms of the EMA SPA and related documents are to EMA, subject to limited exceptions; and (2) certain registration rights. In addition, any subsidiary to which the Company transfers a material amount of assets must guarantee certain obligations of the Company under the note.

The EMA Warrant is a common stock purchase warrant to purchase 3,750,000 shares of common stock, for value received in connection with the issuance of the note, from the date of issuance of the EMA Warrant until September 30, 2023, at an exercise price of \$0.007 (subject to adjustment as provided therein) per share of common stock.

The note and the shares of common stock issuable upon conversion thereof are offered and sold to EMA in reliance upon specific exemptions from the registration requirements of United States federal and state securities laws, which include Section 4(a)(2) of the 1933 Act, and Rule 506 of Regulation D promulgated thereunder. Pursuant to these exemptions, EMA represented to the Company under the EMA SPA, among other representations, that it was an “accredited investor” as that term is defined in Rule 501(a) of Regulation D under the 1933 Act.

2014 License Agreement Extension of Time to Meet December 31, 2019 Payment Obligation

RespireRx received an extension of time to meet the \$100,000 per year payment obligation that was originally due on December 31, 2019, until July 7, 2020 when the payment obligation was met by RespireRx. The next annual payment obligation due with respect to the 2014 License Agreement is due on December 31, 2020. See Note 8. Significant Agreements and Contracts – *University of Illinois 2014 Exclusive License Agreement*.

Compensation Forgiveness by Arnold S. Lippa and Jeff Margolis and Related Issuance of Series H Preferred Stock.

On July 13, 2020, RespireRx entered into two Exchange Agreements (each an “Exchange Agreement” and collectively, the “Exchange Agreements”) with Mr. Margolis, and Dr. Lippa (each an “Employee” and collectively, the “Employees”).

Pursuant to the terms of the Exchange Agreements, each Employee exchanged his right to receive certain accrued compensation from the Company in exchange for shares of Series H 2% Voting, Non-Participating, Convertible Preferred Stock (“Series H Preferred Stock”) of the Company. Mr. Margolis exchanged his right to receive \$500,000 of accrued compensation for 500 shares of the Series H Preferred Stock, and Dr. Lippa exchanged his right to receive \$600,000 of accrued compensation for 600 shares of the Series H Preferred Stock. The Series H Preferred Stock is convertible into units consisting of one share of common stock of the Company and a warrant exercisable into one share of common stock of the Company (such warrant having an initial exercise price of \$0.007 per share).

The agreement to accept the Employees’ offers to forgive compensation and to enter into Exchange Agreements was approved by disinterested members of the Company’s Board of Directors; Mr. Margolis and Dr. Lippa recused themselves from voting. The Company’s entry into the Exchange Agreements and resulting forgiveness of compensation reduced the accrued compensation liabilities of the Company by \$1,100,000.

Also, on July 13, 2020, the Company filed a Certificate of Designation, Preferences, Rights and Limitations (the “Certificate of Designation”) of its Series H Preferred Stock with the Secretary of State of the State of Delaware to amend the Company’s certificate of incorporation. The filing of the Certificate of Designation was approved by the Company’s Board of Directors. The Certificate of Designation sets forth the preferences, rights and limitations of the Series H Preferred Stock.

Entry into Equity Purchase Agreement

On July 28, 2020, RespireRx entered into an equity purchase agreement (the “EPA”) and a registration rights agreement (the “Registration Rights Agreement”) with White Lion Capital, LLC (the “Investor”) pursuant to which the Investor agreed to invest up to \$2,000,000 to purchase the Company’s common stock at a purchase price of 85% of the lowest daily volume weighted average price of the common stock for the five trading days prior to a given closing date related to such purchase. Additionally, RespireRx issued to the Investor a convertible note (the “Commitment Note”) with a face amount of \$25,000.

The Registration Rights Agreement was entered into as an inducement to the Investor to execute and deliver the EPA, whereby RespireRx agreed to provide certain registration rights under the 1933 Act with respect to the shares of common stock issuable to the Investor pursuant to the EPA. The EPA terminates on the earlier of (i) June 30, 2021, (ii) the date on which the Investor has purchased \$2,000,000 of the Company’s common stock, (iii) the date on which the registration statement agreed to in the Registration Rights Agreement is no longer in effect, (iv) upon Investor’s material breach of the EPA, (v) in the event a voluntary or involuntary bankruptcy petition is filed with respect to RespireRx, or (vi) if a custodian is appointed for RespireRx for all or substantially all of its property or RespireRx makes a general assignment for the benefit of its creditors.

The Commitment Note was issued in connection with the execution of the EPA and pursuant to the terms thereof, and obligates RespireRx to pay by July 28, 2021 a principal amount of \$25,000, together with a guaranteed interest payment of \$2,000 representing an 8% per annum interest rate applied regardless of any payments or prepayments other than payments made by conversion of the Commitment Note. Upon an event of default, any amount of outstanding principal or interest would bear interest at the lower of 18% or the highest rate permitted by law.

The Investor has the right, at any time after the first 180 days, to convert any outstanding and unpaid amount (including accrued interest and other fees) into shares of common stock, provided that such conversion would not result in the Investor beneficially owning more than 9.99% of RespireRx’s then outstanding common stock. Unless an event of default has occurred, the Investor may convert at a per share conversion price equal to \$0.02. Upon such conversion, all rights with respect to the portion of the Commitment Note being so converted terminate, except for the right to receive common stock.

The Investor also has the right, at any time the Commitment Note is outstanding, to apply any outstanding principal or interest as consideration for any equity, equity-linked and/or debt securities offered by RespireRx in any public offering or private placement, subject to the terms of the Commitment Note.

RespireRx may, with prior written notice to the Investor, prepay the entire outstanding principal amount under the Commitment Note at any time by making a payment to the Investor of an amount in cash equal to 110% of the outstanding principal, guaranteed interest amount, and any default interest or other amounts owed.

The shares of common stock to be issued and sold to the Investor pursuant to the EPA, or issuable upon conversion of the Commitment Note, and the Commitment Note are issued in reliance upon specific exemptions from the registration requirements of United States federal and state securities laws, which include Section 4(a)(2) of the 1933 Act, and Rule 506 of Regulation D promulgated thereunder. Pursuant to these exemptions, the Investor represented to the Company under the EPA, among other representations, that it was an “accredited investor” as that term is defined in Rule 501(a) of Regulation D under the 1933 Act.

Approval of Amendment of the Amended and Restated 2015 Stock and Stock Option Plan

On July 31, 2020, the Board of Directors amended the 2015 Plan to increase the shares issuable under the 2015 Plan by 100,000,000, from 58,985,260 shares to 158,985,260. Other than the change in the number of shares available under the 2015 Plan, no other changes were made to the 2015 Plan by this amendment. See Note 6. Stockholders' Deficiency – *Stock Options*.

Stock options granted to Executive Officers and Others

On July 31, 2020, the Board of Directors of the Company granted non-qualified options to two executive officers of the Company.

RespireRx granted a non-qualified stock option to Mr. Jones to purchase 16,000,000 shares of common stock of the Company. The options vested or will vest, as applicable, in four installments: 25% on issuance, 25% on September 30, 2020, 25% on December 31, 2020, and 25% on March 31, 2021. The options will expire on July 31, 2025. The exercise price of the options is the closing per share market price of shares of common stock of RespireRx as of the date of issuance, which was \$0.0072 per share. The option contains a cashless exercise provision.

RespireRx granted non-qualified options to Richard Purcell to purchase 5,000,000 shares of common stock of the Company. The options vested or will vest, as applicable, in four installments: 25% on issuance, 25% on September 30, 2020, 25% on December 31, 2020, and 25% on March 31, 2020. The options will expire on July 31, 2025. The exercise price of the options is the closing per share market price of shares of Common Stock of the Company as of the date of issuance, which was \$0.0072 per share. The option contains a cashless exercise provision.

On July 31, 2020, the Board of Directors of the Company granted a non-qualified option exercisable into 7,500,000 shares of common stock of the Company to Kathryn MacFarlane, a member of the Board of Directors and additional non-qualified options exercisable into 21,000,000 shares of common stock of the Company in the aggregate to vendors, or assignees of vendors, in each case on either a discretionary basis or for services rendered. The options vested on issuance and will expire on July 31, 2025. The exercise price of the options is the closing per share market price of shares of common stock of RespireRx as of the date of issuance, which was \$0.0072 per share. These options contain a cashless exercise provision.

Amendment to Timothy Jones Employment Contract and Extension Beyond Provisional Period

On July 31, 2020, the employment agreement of Mr. Jones was amended to (i) decrease the threshold financing amount above which the Board of Directors may exercise its discretion to withhold payment to Mr. Jones of his salary and bonus and (ii) adjust bonus amounts paid without adjusting the aggregate dollar amount of these bonus amounts.

On that same date, pursuant to employment agreement, (i) Mr. Jones's employment with the Company was no longer considered "at will" and all rights and obligations set forth in the Employment Agreement were deemed effective as of that date and (ii) Mr. Jones was granted options to purchase 1,000,000 shares of common stock of RespireRx.

See "Note 8. *Significant Agreements and Contracts—Employment Agreements*." Also, see See Note 8. Commitments and Contingencies – Significant Agreements and Contracts – *Employment Agreements* to our condensed consolidated financial statements at March 31, 2020 for more information on the employment agreement of Mr. Jones.

Exercise of Option pursuant to Option Agreement with UWMRF and Commencement of UWMRF Patent License Agreement.

On August 1, 2020, RespireRx exercised its option pursuant to its option agreement dated March 2, 2020, between RespireRx and UWM Research Foundation, an affiliate of the University of Wisconsin-Milwaukee (“UWMRF”). Upon exercise RespireRx and UWMRF executed the UWMRF Patent License Agreement effective August 1, 2020 pursuant to which RespireRx licensed the identified intellectual property. Under the terms of the exclusive, royalty bearing UWMRF Patent License Agreement, RespireRx licensed from UWMRF, the Licensed Subject Matter which includes the patent rights, technology rights and improvements on a worldwide basis. RespireRx is responsible to pay UWMRF 25% of past patent costs twelve months after the effective date of the UWMRF Patent License Agreement and 25% twenty-four months after the effective and the balance of past patent costs thirty-six months after the effective date. As of January 14, 2020, such past patent costs totaled \$60,370. RespireRx is obligated to pay annual license maintenance fees that vary from year-to-year from the second anniversary date through the fifth anniversary date and the amount due on the fifth anniversary date is due each anniversary date thereafter. Additionally, RespireRx is obligated to pay UWMRF one-time milestones (i) upon the dosing of the first patient in a Phase II clinical trial, (ii) upon the dosing of the first patient in a Phase III clinical trial and (iii) upon approval by the FDA” of a NDA. RespireRx is also obligated to pay annual royalties on net sales of patented products, and other products as described and defined in the UWMRF Patent License Agreement, subject to reduction due to royalty stacking provisions. The royalty percentages are also subject to annual minimum amounts after first commercial sale of a licensed product of which annual minimums increase in two-year increments until they reach a fixed amount in year six and thereafter. UWMRF was granted stock appreciation rights providing UWMRF with the right to receive an amount equal to 4.9% of the consideration received upon the sale or assignment of one or more of the neuromodulator programs above \$1 per program. The Company must provide UWMRF with an annual development plan by September 30, 2021 and each September 30th thereafter. The UWMRF Patent License Agreement will expand the Company’s neuromodulator platform which has historically included the Company’s AMPakine program and now includes a GABA_A program as well. That platform, as expanded, is now called EndeavourRx.

Conversions of Certain Convertible Notes

The table below summarizes the conversions of several convertible notes after June 30, 2020.

	Date 2020	Principal converted	Interest converted	Costs	Total converted	No. Shares issued
Convertible note issued in November 2019						
	July 1	\$ 20,500	\$ 1,348	\$ -	\$ 21,848	9,103,313
	July 7	\$ 10,000	\$ 674	-	\$ 10,674	4,447,488
Total		<u>\$ 30,500</u>	<u>\$ 2,022</u>	<u>\$ -</u>	<u>\$ 32,522</u>	<u>13,550,801</u>

Exercises of Certain Warrants on a Cashless Basis

The table below summarizes the exercise of warrants after June 30, 2020.

Warrant exercises	Date 2020	Number of warrants exercised on a cashless basis	Number of shares issued
Warrants Associated With August 2019 Convertible Note	July 1	10,063,627	9,490,000
	July 7	10,604,454	10,000,000
	July 10	10,604,454	10,000,000
	July 23	2,997,219	2,826,861
Warrants Associated With October 2019 Convertible Note	July 31	13,300,000	12,641,650
	August 7	14,000,000	13,307,000
	August 12	14,000,000	13,307,000
Total		<u>75,569,754</u>	<u>71,572,511</u>

Reimbursement of Advances made by Officers to the Company

Advances to the Company, included in Notes payable to officers in the Company’s condensed consolidated balance sheet as of June 30, 2020, made by Jeff E. Margolis, were repaid, in part, such repayment being \$4,000.

115,000,000 Shares of Common Stock



RespireRx Pharmaceuticals Inc.

PROSPECTUS

October 28, 2020
