Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended March 31, 2019
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Transition Period from to

Commission File Number: 001-36812

FLEX PHARMA, INC.
(Exact name of Registrant as specified in its charter)

Delaware	**46-5087339**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification Number)

31 St. James Avenue, 6th Floor, Boston, MA 02116
(Address of principal executive offices)(Zip Code)

Registrant's Telephone Number, Including Area Code: (617) 874-1821

Former Name, Former Address and Former Fiscal Year, If Changed Since Last Report: Not Applicable

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to the filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large Accelerated Filer ☐ Accelerated Filer ☐ Non-accelerated Filer ☒ Smaller Reporting Company ☒ Emerging Growth Company ☒

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act.) Yes ☐ No ☒

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $ 0.0001 par value	FLKS	The Nasdaq Stock Market LLC

As of April 26, 2019, there were 18,069,476 shares of common stock outstanding.

FLEX PHARMA, INC.

TABLE OF CONTENTS

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements related to present facts or current conditions or historical facts, contained in this Quarterly Report on Form 10-Q, including statements regarding our strategy, future operations, future financial position, projected costs, expectations regarding the timing and outcome of the strategic review process, the expectations regarding our research and development efforts, the commercial prospects of our consumer product, and the plans and objectives of management, are forward looking statements. These factors also include, but are not limited to, those factors set forth in the sections entitled "Risk Factors," "Legal Proceedings," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Quantitative and Qualitative Disclosures about Market Risk," and "Controls and Procedures" in this Quarterly Report on Form 10-Q, all of which you should review carefully. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

Forward-looking statements are not guarantees of future performance and our actual results could differ materially from the results discussed in the forward-looking statements. Factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, the outcome of the evaluation of our strategic alternatives, including any perceived benefits of our restructuring plan; the costs associated with any pending or threatened litigation; our ability to raise funds for our operations, our ability to continue to sell our consumer product; availability of funding sufficient for our foreseeable and unforeseeable operating expenses and capital expenditure requirements; ability to attract, retain and motivate qualified personnel; the status, timing, costs, results and interpretation of our clinical trials; the uncertainties inherent in conducting clinical trials; results from our ongoing and planned clinical development; expectations of our ability to make regulatory filings and obtain and maintain regulatory approvals; results of early clinical studies as indicative of the results of future trials; other matters that could affect the availability or commercial potential of our drug product candidates; the inherent uncertainties associated with intellectual property; and other factors discussed in this Quarterly Report on Form 10-Q, our Annual Report on Form 10-K for the year ended December 31, 2018 and other filings with the Securities and Exchange Commission, or SEC.

As a result of these and other factors, we may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

FLEX PHARMA, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)

	March 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 7,297,468	$ 9,829,624
Restricted cash	—	126,595
Accounts receivable	9,069	9,939
Inventory	164,597	186,920
Prepaid expenses and other current assets	675,277	162,088
Total current assets	8,146,411	10,315,166
Property and equipment, net	38,008	74,460
Total assets	$ 8,184,419	$ 10,389,626
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 186,349	$ 342,530
Accrued expenses and other current liabilities	724,769	764,340
Total current liabilities	911,118	1,106,870
Total liabilities	911,118	1,106,870
Stockholders' equity:		
Preferred stock, $0.0001 par value; 10,000,000 shares authorized at March 31, 2019 and December 31, 2018; none issued or outstanding at March 31, 2019 and December 31, 2018	—	—
Common stock, $0.0001 par value; 100,000,000 shares authorized at March 31, 2019 and December 31, 2018; 18,069,476 and 18,069,476 shares issued at March 31, 2019 and December 31, 2018, and 18,068,017 and 18,067,392 shares outstanding at March 31, 2019 and December 31, 2018, respectively	1,807	1,807
Additional paid-in capital	142,463,199	142,242,224
Accumulated deficit	(135,191,705)	(132,961,275)
Total stockholders' equity	7,273,301	9,282,756
Total liabilities and stockholders' equity	$ 8,184,419	$ 10,389,626

See accompanying notes to condensed consolidated financial statements.

FLEX PHARMA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Net product revenue	$ 104,220	$ 176,255
Other revenue	757	2,327
Total revenue	104,977	178,582
Costs and expenses:		
Cost of product revenue	47,329	83,934
Research and development	1,706	4,680,181
Selling, general and administrative	2,299,585	3,697,287
Total costs and expenses	2,348,620	8,461,402
Loss from operations	(2,243,643)	(8,282,820)
Interest income, net	13,213	59,593
Net loss	$ (2,230,430)	$ (8,223,227)
Net loss attributable to common stockholders	$ (2,230,430)	$ (8,223,227)
Net loss per share attributable to common stockholders — basic and diluted	$ (0.12)	$ (0.46)
Weighted-average number of common shares outstanding — basic and diluted	18,067,807	17,893,912

See accompanying notes to condensed consolidated financial statements.

FLEX PHARMA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS (Unaudited)

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Net loss	$ (2,230,430)	$ (8,223,227)
Other comprehensive gain (loss):		
Unrealized gain on available-for-sale securities	—	1,340
Comprehensive loss	$ (2,230,430)	$ (8,221,887)

See accompanying notes to condensed consolidated financial statements.

FLEX PHARMA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Operating activities		
Net loss	$ (2,230,430)	$ (8,223,227)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	36,452	64,066
Stock-based compensation expense	220,975	908,940
Amortization and accretion on investments	—	12,231
Other non-cash items	—	(3,480)
Changes in operating assets and liabilities:		
Accounts receivable	870	4,514
Inventory	22,323	(3,297)
Prepaid expenses and other current assets	(513,189)	(499,023)
Accounts payable	(156,181)	236,962
Accrued expenses and other current liabilities	(39,571)	(1,895,468)
Deferred rent	—	(14,705)
Net cash used in operating activities	(2,658,751)	(9,412,487)
Investing activities		
Purchases of marketable securities	—	(1,997,751)
Proceeds from maturities and sales of marketable securities	—	14,117,184
Proceeds from sales of property and equipment	—	500
Net cash provided by investing activities	—	12,119,933
Financing activities		
Proceeds from exercise of common stock	—	54,913
Net cash provided by financing activities	—	54,913
Net (decrease) increase in cash, cash equivalents and restricted cash	(2,658,751)	2,762,359
Cash, cash equivalents and restricted cash at beginning of period	9,956,219	19,312,631
Cash, cash equivalents and restricted cash at end of period	$ 7,297,468	$ 22,074,990

See accompanying notes to condensed consolidated financial statements.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (Unaudited)

	Preferred Stock		Common Stock					
	Shares	Amount	Shares	Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2017	—	$ —	17,797,178	$ 1,780	$ 140,184,630	$ (1,247)	$ (111,079,275)	$ 29,105,888
Vesting of restricted common stock	—	—	171,029	17	(17)	—	—	—
Issuance of common stock from option exercises	—	—	12,645	1	54,912	—	—	54,913
Stock-based compensation expense	—	—	—	—	908,940	—	—	908,940
Unrealized gain on available-for-sale securities	—	—	—	—	—	1,340	—	1,340
Adjustment related to adoption of new accounting pronouncement using the modified retrospective transition method	—	—	—	—	—	—	40,217	40,217
Net loss	—	—	—	—	—	—	(8,223,227)	(8,223,227)
Balance at March 31, 2018	—	$ —	17,980,852	$ 1,798	$ 141,148,465	$ 93	$ (119,262,285)	$ 21,888,071
Balance at December 31, 2018	—	$ —	18,067,392	$ 1,807	$ 142,242,224	$ —	$ (132,961,275)	$ 9,282,756
Vesting of restricted common stock	—	—	625	—	—	—	—	—
Issuance of common stock from option exercises	—	—	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	220,975	—	—	220,975
Net loss	—	—	—	—	—	—	(2,230,430)	(2,230,430)
Balance at March 31, 2019	—	$ —	18,068,017	$ 1,807	$ 142,463,199	$ —	$ (135,191,705)	$ 7,273,301

See accompanying notes to condensed consolidated financial statements.

FLEX PHARMA, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)

1. Organization and operations

The Company

Flex Pharma Inc. (the "Company") is a biotechnology company that was previously focused on developing innovative and proprietary treatments for muscle cramps, spasms and spasticity associated with severe neurological conditions. In June 2018, the Company announced that it was ending its ongoing Phase 2 clinical trials of its lead drug product candidate, FLX-787, in patients with motor neuron disease, or MND, primarily with amyotrophic lateral sclerosis, or ALS, and in patients with Charcot-Marie-Tooth disease, or CMT, due to oral tolerability concerns observed in both studies. The wind-down of the activities associated with these studies was completed in the third quarter of 2018.

In 2016, the Company launched its consumer product, HOTSHOT®, to prevent and treat exercise-associated muscle cramps, or EAMCs. The Company continues to market and sell HOTSHOT to endurance athletes who drink it before, during and after exercise to prevent and treat EAMCs.

In June 2018, the Company initiated a process to explore a range of strategic alternatives for enhancing stockholder value, including the potential sale or merger of the Company. Wedbush PacGrow was engaged to act as its strategic financial advisor at that time. The Company also announced the restructuring of its organization to reduce the Company's cost structure. In connection with the restructuring plan, the Company reduced its workforce by approximately 60%, with the reduction completed as of September 30, 2018.

Following an extensive process of evaluating strategic alternatives for the Company, including identifying and reviewing potential candidates for a strategic acquisition or other transaction, on January 3, 2019, the Company entered into an Agreement and Plan of Merger, or the Merger Agreement, with Salarius Pharmaceuticals, LLC, or Salarius, under which the privately-held Salarius will merge with a wholly-owned subsidiary of the Company. If the merger is completed, the business of Salarius will continue as the business of the combined company.

The Company operates as two reportable segments, Consumer Operations and Drug Development. See Note 12 for additional discussion and information on the reportable segments.

Liquidity

The Company incurred a loss of $2,230,430 for the three months ended March 31, 2019, and had an accumulated deficit of $135,191,705 as of March 31, 2019. The Company had unrestricted cash and cash equivalents of $7,297,468 at March 31, 2019. The Company's operating plan assumes limited research and development activities and that the Consumer Operations segment will continue to sell HOTSHOT.

In the event that the Company does not complete the merger with Salarius, the Company (i) may elect to pursue a dissolution and liquidation of the Company, (ii) pursue another strategic transaction or (iii) may continue to market HOTSHOT and operate its consumer business. If the Company dissolves and liquidates, the Company's common stockholders may lose their entire investment. The amount of assets available for distribution to the Company's stockholders will depend heavily on the timing of such liquidation as well as the amount of cash that will be needed for commitments and contingent liabilities.

Based on the Company's operating plan, the Company believes that its existing cash and cash equivalents will be sufficient to allow the Company to fund its current operating plan for at least 12 months from the date the financial statements are issued.

The Company cannot predict the outcome of the merger or whether and to what extent it will resume drug development activities for FLX-787 or other drug product candidates and to what extent it will promote and sell HOTSHOT or other consumer products in the future. Accordingly, it is difficult to predict future cash needs. Management does expect the Company to incur losses for the foreseeable future. The Company's ability to achieve profitability in the future is dependent upon achieving a level of revenues adequate to support the Company's cost structure. The Company may never achieve profitability, and unless and until it does, the Company will continue to need to raise additional capital. If the Company raises funds through the sale of equity or convertible debt securities, the issuance of those securities could result in substantial dilution of the stockholders' ownership in the

Company. There can be no assurances, however, that additional funding will be available on terms acceptable to the Company, or at all.

2. Summary of significant accounting policies and recent accounting pronouncements

The accompanying unaudited condensed consolidated financial statements reflect the application of certain significant accounting policies as described below and elsewhere in these notes to the condensed consolidated financial statements. As of March 31, 2019, the Company's significant accounting policies, which are detailed in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (the "2018 10-K"), have not changed, other than as noted below.

Accounts receivable and allowance for doubtful accounts

Accounts receivable are stated at their carrying values, net of any allowances for doubtful accounts. Accounts receivable consist primarily of amounts due from specialty retailers and sports teams, for which collection is probable based on the customer's intent and ability to pay. Receivables are evaluated for collection probability on a regular basis and an allowance for doubtful accounts is recorded, if necessary. No allowance for doubtful accounts was deemed necessary at March 31, 2019 or December 31, 2018.

Restricted cash

As of December 31, 2018, the Company had restricted cash in the form of a letter of credit it maintained as a security deposit on the lease of its former corporate headquarters in Boston, Massachusetts that was set to expire on August 31, 2019. The Company terminated this lease on December 13, 2018. The letter of credit was released, and the cash became unrestricted on January 4, 2019.

Advertising expense

Advertising expense consists of media and production costs related to print and digital advertising. All advertising is expensed as incurred. Total advertising expenses are included in selling, general and administrative expenses in the condensed consolidated statement of operations, and were approximately $10,000 for the three months ended March 31, 2019 and approximately $508,000 for the three months ended March 31, 2018.

Shipping and handling costs

Shipping and handling costs related to the movement of inventory to the Company's co-packer and from the co-packer to the Company's third-party warehousing and fulfillment partners are capitalized as inventory and expensed as cost of product revenue when revenue is recognized. Shipping and handling costs to move finished goods from the Company's third-party warehousing and fulfillment partners to customer locations are included in selling, general and administrative expenses in the condensed consolidated statement of operations, and were approximately $15,000 for the three months ended March 31, 2019, and approximately $25,000 for the three months ended March 31, 2018.

Restructuring-related costs

The Company records employee termination costs in accordance with Accounting Standards Codification ("ASC") Topic 712, *Compensation - Nonretirement and Postemployment Benefits* ("ASC 712"), if the termination benefits are paid as part of an ongoing benefit arrangement, which includes benefits provided as part of the Company's established severance policy or as part of an executive employment agreement. The Company accrues employee termination costs associated with an on-going benefit arrangement if the obligation is attributable to prior services rendered, the rights to the benefits have vested, the payment is probable, and the Company can reasonably estimate the liability. The Company accounts for employee termination benefits that represent a one-time benefit in accordance with ASC Topic 420, *Exit or Disposal Cost Obligations* ("ASC 420"). Upon communication of the termination to the employee, the Company expenses these costs over the employee's future service period, if any.

Restructuring-related costs are recorded within research and development expenses and selling, general and administrative expenses on the Company's consolidated statement of operations. Liabilities associated with the

Company's restructuring activities are recorded as a component of accrued expenses and other current liabilities on its consolidated balance sheets. See Note 7 for additional information on the Company's current restructuring plan.

Unaudited interim financial information

Certain information and footnote disclosures normally included in the Company's annual financial statements have been condensed or omitted. Accordingly, these interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the 2018 10-K.

The condensed consolidated financial statements as of March 31, 2019, for the three months ended March 31, 2019 and 2018, and the related information contained within the notes to the condensed consolidated financial statements, are unaudited. The unaudited condensed consolidated financial statements have been prepared on the same basis as annual audited consolidated financial statements, and in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for the fair presentation of the Company's condensed consolidated financial position as of March 31, 2019, and the statements of operations, comprehensive loss and cash flows for the three month periods ended March 31, 2019 and 2018. The results for the three months ended March 31, 2019 are not necessarily indicative of results to be expected for the year ending December 31, 2019, or any other future annual or interim periods.

Basis of presentation and use of estimates

The accompanying condensed consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the ASC and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB"). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. On an ongoing basis, the Company's management evaluates its estimates, which include, but are not limited to, estimates related to clinical study accruals, estimates related to inventory realizability, stock-based compensation expense and amounts of expenses during the reported period. The Company bases its estimates on historical experience and other market-specific or other relevant assumptions that it believes to be reasonable under the circumstances. Actual results may differ from those estimates or assumptions.

Principles of consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries: TK Pharma, Inc., a Massachusetts Securities Corporation, Flex Innovation Group LLC, a Delaware limited liability company which contains the Company's consumer-related operations, and Falcon Acquisition Sub, LLC, a Delaware limited liability company established for purposes of the merger. All significant intercompany balances and transactions have been eliminated in consolidation.

Recent accounting pronouncements

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* ("ASU 2016-02"). The ASU requires lessees to recognize the assets and liabilities on their balance sheet for the rights and obligations created by most leases and continue to recognize expenses on their income statements over the lease term. It also requires disclosures designed to give financial statement users information on the amount, timing and uncertainty of cash flows arising from leases. The guidance is effective for annual reporting periods beginning after December 15, 2018, and interim periods within those years. The Company adopted ASU No. 2016-02 in the first quarter of 2019, which did not materially impact the Company's condensed consolidated financial statements or disclosures.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement.* This ASU modifies the disclosure requirements on fair value measurements in Topic 820, *Fair Value Measurement*. The guidance is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those years. Early adoption

is permitted. The Company is currently evaluating the impact of ASU No. 2018-13 on its consolidated financial statements and disclosures.

The Company believes that the impact of other recently issued standards that are not yet effective will not have a material effect on its consolidated financial position or results of operations upon adoption.

3. Revenue from contracts with customers

Revenue recognition

Revenue includes sales of HOTSHOT bottled finished goods to e-commerce customers, specialty retailers and sports teams, including professional and amateur teams. Revenue also consists of payments made by customers for expedited shipping and handling.

The Company expenses fulfillment costs as incurred because the amortization period would be less than one year in accordance with the ASC 606, Revenue from Contracts with Customers ("ASC 606"), practical expedient.

In accordance with ASC 606, the Company applies the following steps to recognize revenue for the sale of bottled finished goods that reflects the consideration to which the Company expects to be entitled to receive in exchange for the promised goods:

1. Identify the contract with a customer

A contract with a customer exists when the Company enters into an enforceable contract with a customer. The contract is based on either the acceptance of standard terms and conditions on the websites for e-commerce customers, or the execution of terms and conditions contracts with specialty retailers and sports teams. These contracts define each party's rights, payment terms and other contractual terms and conditions of the sale. The Company applies judgment in determining the customer's ability and intention to pay, which is based on a variety of factors including the customer's historical payment experience and, in some circumstances, published credit and financial information pertaining to the customer.

2. Identify the performance obligations in the contract

Performance obligations promised in a contract are identified based on the goods that will be transferred to the customer that are both capable of being distinct and are distinct in the context of the contract, whereby the transfer of the goods is separately identifiable from other promises in the contract. The Company has concluded the sale of bottled finished goods and related shipping and handling are accounted for as a single performance obligation.

3. Determine the transaction price

The transaction price is determined based on the consideration to which the Company will be entitled to receive in exchange for transferring goods to the customer. For sales through June 18, 2018, the Company offered refunds to e-commerce customers, upon request, within 30 days of delivery. For sales subsequent to June 18, 2018, the Company now offers refunds to e-commerce customers, upon request, within 14 days of delivery. The Company estimates the amount of potential refunds at each reporting period using a portfolio approach of historical data, adjusted for changes in expected customer experience, including seasonality and changes in economic factors, as necessary. For specialty retailers and sports teams, the Company does not offer a right of return or refund and revenue is recognized at the time products are delivered to customers.

Discounts provided to customers are accounted for as an element of the transaction price and as a reduction to revenue, and were approximately $1,000 and $8,000 for the three months ended March 31, 2019 and March 31, 2018, respectively.

Revenue is presented net of taxes collected from customers and remitted to governmental authorities.

4. Determine the satisfaction of performance obligation

Revenue is recognized when control of the bottled finished goods is transferred to the customer. Control of the bottled finished goods is transferred at a point in time, upon delivery to the customer. The period of time between the satisfaction of the performance obligation and when payment is due from the customer is not significant.

Concentrations of credit risk

The Company had no customers that represented greater than 10% of total revenue during the three months ended March 31, 2019 or the three months ended March 31, 2018. All of the Company's revenue was generated from sales within the United States.

4. Fair value measurements

The Company records cash equivalents at fair value. ASC Topic 820, *Fair Value Measurements and Disclosures,* established a fair value hierarchy for those instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and the Company's own assumptions (unobservable inputs). The hierarchy consists of three levels:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 – Quoted prices for similar assets and liabilities in active markets, quoted prices in markets that are not active, or inputs which are observable, directly or indirectly, for substantially the full term of the asset or liability.

Level 3 – Unobservable inputs that reflect the Company's own assumptions about the assumptions market participants would use in pricing the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date.

The following tables summarize the cash equivalents measured at fair value on a recurring basis as of March 31, 2019 and December 31, 2018:

	Level 1	Level 2	Level 3	Balance as of March 31, 2019
Cash equivalents	$ 2,346,856	$ —	$ —	$ 2,346,856
	$ 2,346,856	$ —	$ —	$ 2,346,856

	Level 1	Level 2	Level 3	Balance as of December 31, 2018
Cash equivalents	$ 2,333,771	$ —	$ —	$ 2,333,771
	$ 2,333,771	$ —	$ —	$ 2,333,771

Cash equivalents have been initially valued at the transaction price and subsequently valued, at the end of each reporting period, utilizing third-party pricing services or other market observable data. The third-party pricing services utilize industry standard valuation models, including both income and market based approaches and observable market inputs to determine value. The Company's cash equivalents consist of money market funds that are valued based on publicly available quoted market prices for identical securities as of March 31, 2019. After completing its validation procedures, the Company did not adjust or override any fair value carrying amounts as of March 31, 2019.

The carrying amounts reflected in the condensed consolidated balance sheets for cash, accounts receivable, prepaid expenses and other current assets, accounts payable, accrued expenses and other current liabilities approximate their fair values at March 31, 2019 and December 31, 2018, due to their short-term nature.

The Company evaluates transfers between levels at the end of each reporting period. There were no transfers of assets or liabilities between Level 1 and Level 2 during the three months ended March 31, 2019 or the year ended December 31, 2018. The Company had no financial assets or liabilities that were classified as Level 3 at any time during the three months ended March 31, 2019 or the year ended December 31, 2018.

5. Cash equivalents

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. Cash equivalents as of March 31, 2019 and December 31, 2018 consisted of money market funds.

The Company held no marketable securities at March 31, 2019 and December 31, 2018.

The following table provides a reconciliation of cash and cash equivalents and restricted cash reported within the condensed consolidated balance sheets that sum to the total of such amounts in the condensed consolidated statements of cash flows:

	March 31, 2019	December 31, 2018
Cash and cash equivalents	$ 7,297,468	$ 9,829,624
Restricted cash	—	126,595
Cash, cash equivalents and restricted cash shown on the condensed consolidated statement of cash flows	$ 7,297,468	$ 9,956,219

6. Inventory

Inventory has been recorded at cost as of March 31, 2019 and December 31, 2018. Costs capitalized at March 31, 2019 and December 31, 2018 relate to HOTSHOT finished goods, as well as raw materials available to be used for future production runs.

The following table presents inventory:

	March 31, 2019	December 31, 2018
Raw materials	$ 7,247	$ 7,247
Finished goods	157,350	179,673
Total inventory	$ 164,597	$ 186,920

There were no inventory write-offs during the three months ended March 31, 2019 or March 31, 2018.

7. Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consisted of the following:

	March 31, 2019	December 31, 2018
Professional fees	$ 681,360	$ 269,544
Payroll and other employee-related costs	36,239	417,997
Consumer product-related costs	7,170	5,360
Restructuring-related costs	—	68,593
Other research and development-related costs	—	2,846
Total	$ 724,769	$ 764,340

Restructuring-related costs

In June 2018, the Company's Board of Directors ("Board") approved a corporate restructuring plan to reduce the Company's cost structure. In connection with the corporate restructuring plan, the Company reduced its workforce by approximately 60%, with the reduction completed as of September 30, 2018. As of March 31, 2019, the Company had paid $51,000 in retention bonuses and $889,000 in severance benefits associated with these arrangements.

Also, in June 2018, the Board approved employee retention arrangements and certain increased severance payments related to the corporate restructuring plan, to incentivize certain employees to remain with the Company through a potential sale or merger. As of March 31, 2019, the Company had paid $214,000 in retention bonuses, $410,000 in annual bonuses and $185,000 in severance benefits associated with these arrangements. As of March 31, 2019, cash retention benefits totaling approximately $603,000 will be payable to the remaining employees and certain former employees who continue to provide service as consultants, upon the occurrence of a change in control event, including a sale or merger of the Company. Upon a change in control event and termination without cause, the remaining employees will be eligible for up to approximately $928,000, in the aggregate, of severance benefits.

During the three months ended March 31, 2019, the Company recognized a reduction in the accrual for restructuring-related activities of approximately $11,000, which is comprised of approximately $3,000 recorded as a for one-time termination benefit costs and approximately $8,000 for termination benefits under ongoing benefit arrangements for terminated employees as certain benefit payments are no longer expected to occur. Cumulatively, through March 31, 2019, the Company recognized expense for restructuring-related activities of approximately $1,355,000 which is comprised of approximately $1,029,000 recorded as termination benefits under ongoing benefit arrangements for terminated employees, approximately $97,000 as one-time termination benefit costs for terminated employees, approximately $214,000 in retention benefits for seven retained employees who had retention bonuses not triggered by a change in control event and approximately $15,000 of other restructuring related costs including consulting and legal fees. There are currently no assurances a change in control event will take place. The Company does not consider the payment of severance benefits for retained employees or the payment of retention benefits only payable upon a change in control to be probable for accounting purposes as of March 31, 2019. Unless and until the Company's shareholders have approved a specific transaction, the Company's probability assessment regarding a change in control event is not expected to change.

The Company expects to incur between approximately $1,765,000 and $3,343,000 in total costs for its restructuring-related activities, including approximately $1,355,000 in termination and retention charges and approximately $410,000 related to the annual bonus program, both of which were recorded between the second quarter of 2018 and the first quarter of 2019. Based on the Company's current probability assessment regarding a change in control event and termination of retained employees, there are no anticipated charges in 2019. The range noted above includes approximately $603,000 related to retention benefits only payable upon a change in control event and $928,000 of severance benefits only payable upon a change in control event and termination under certain circumstances.

The following table outlines the Company's restructuring activities for the three months ended March 31, 2019:

Accrued restructuring balance as of December 31, 2018	$	68,593
Adjustments:		
Employee termination benefits		(11,228)
Payments		(57,365)
Accrued restructuring balance as of March 31, 2019	$	—

For the three months ended March 31, 2019, the $11,000 of the reduction in the accrual for restructuring-related activities is included in research and development expenses in the Company's condensed consolidated statement of operations. Cumulatively through March 31, 2019, approximately $957,000 of the restructuring-related and annual bonus charges are included in research and development expenses and approximately $808,000 are included in selling, general and administrative expenses.

For the three months ended March 31, 2019, the reduction in the accrual for restructuring-related activities of approximately $11,000 was incurred by the Company's Drug Development segment. Cumulatively through March 31, 2019, approximately $94,000 of the restructuring-related and annual bonus charges were incurred by the Company's Consumer Operations segment, approximately $957,000 were incurred by the Company's Drug

Development segment and the remaining charges of approximately $714,000 related to corporate costs. Including approximately $1,765,000 of cumulative costs incurred through March 31, 2019, the Company may incur total restructuring-related charges of up to approximately $114,000 and $1,024,000 within its Consumer Operations and Drug Development segments, respectively. The Company may incur up to $2,205,000 of corporate costs that do not relate to a reportable segment.

8. Common stock

As of March 31, 2019, the Company had authorized 100,000,000 shares of common stock, $0.0001 par value per share. Each share of common stock is entitled to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the board of directors. The Company does not intend to declare dividends for the foreseeable future.

Restricted common stock to consultants

During 2016, the Company issued 18,194 shares of restricted common stock to non-employee consultants and advisors. Such shares are not accounted for as outstanding until they vest. There were 16,735 shares of restricted common stock issued to consultants outstanding as of March 31, 2019.

The following is a summary of restricted common stock activity:

	Number of Shares	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2018	2,084	$ 11.05
Issued	—	—
Vested	(625)	11.05
Forfeited	—	—
Unvested at March 31, 2019	1,459	$ 11.05

9. Stock-based compensation

In March 2014, the Company adopted the Flex Pharma, Inc. 2014 Equity Incentive Plan (the "2014 Plan"), under which it had the ability to grant incentive stock options ("ISOs"), non-qualified stock options, restricted stock awards, restricted stock units and stock appreciation rights. Terms of stock award agreements, including vesting requirements, were determined by the board of directors, subject to the provisions of the 2014 Plan. For options granted under the 2014 Plan, the exercise price equaled the fair market value of the common stock as determined by the board of directors on the date of grant. No further awards will be granted under the 2014 Plan.

In January 2015, the Company's Board adopted, and the Company's stockholders approved, the 2015 Equity Incentive Plan (the "2015 Plan"), which became effective immediately prior to the closing of the Company's initial public offering ("IPO"). The 2015 Plan provides for the grant of ISOs, nonstatutory stock options, restricted stock awards, restricted stock units, stock appreciation rights, performance-based stock awards and other stock-based awards. Additionally, the 2015 Plan provides for the grant of performance-based cash awards. ISOs may be granted only to the Company's employees. All other awards may be granted to the Company's employees, including officers, and to non-employee directors and consultants. As of March 31, 2019, there were 2,487,140 shares remaining available for the grant of stock awards under the 2015 Plan.

The Company has awarded stock options to its employees, directors, advisors and consultants, pursuant to the plans described above. Stock options subsequent to the completion of the Company's IPO were granted with an exercise price equal to the closing market price of the Company's common stock on the date of grant. Stock options generally vest over one to four years and have a contractual term of ten years. Stock options are valued using the

Black-Scholes option pricing model and compensation cost is recognized based on the resulting value over the service period.

The following table summarizes stock option activity for employees and non-employees for the three months ended March 31, 2019:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2018	2,320,981	$ 4.10	7.61	$ —
Granted	—	—		
Exercised	—	—		
Forfeited	—	—		
Expired	(23,945)	4.41		
Outstanding at March 31, 2019	2,297,036	$ 4.10	7.36	$ —
Exercisable at March 31, 2019	1,237,034	$ 5.31	6.09	$ —
Vested or expected to vest at March 31, 2019	2,297,036	$ 4.10	7.36	$ —

Total stock-based compensation expense recognized for employee and non-employee restricted common stock, and stock options granted to employees and non-employees is included in the Company's condensed consolidated statements of operations as follows:

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Research and development	$ 19,442	$ 386,537
Selling, general and administrative	201,533	522,403
Total	$ 220,975	$ 908,940

As of March 31, 2019, there was approximately $1,938,476 of total unrecognized compensation cost related to unvested equity awards. Total unrecognized compensation cost will be adjusted for future changes in employee and non-employee forfeitures, if any. The Company expects to recognize that cost over a remaining weighted-average period of 2.54 years.

On June 14, 2018, the Company granted 654,544 stock options, in the aggregate, to seven employees as part of the Company's retention arrangements with these employees. These awards vest monthly over 48 months as the employees provide continuous service, and expense is being recognized over this period. The awards are exercisable for one to three-years post termination depending on the employee to which the stock options were granted. The awards vest in full upon a change in control event and termination under certain circumstances. A change in control event is not currently considered probable for accounting purposes. On January 3, 2019, the Company entered into a Merger Agreement with Salarius. Unless and until the Company's shareholders have approved this specific transaction, the Company's probability assessment regarding a change in control event is not expected to change.

Employee stock purchase plan

As of March 31, 2019, no shares of common stock have been purchased under the ESPP.

10. Income taxes

Deferred tax assets and deferred tax liabilities are recognized based on temporary differences between the financial reporting and tax basis of assets and liabilities using statutory rates. A valuation allowance is recorded against deferred tax assets if it is more likely than not that some or all of the deferred tax assets will not be realized. Based upon the Company's history of operating losses and the uncertainty surrounding the realization of the favorable tax attributes in future tax returns, the Company has recorded a full valuation allowance against the Company's otherwise recognizable net deferred tax assets. There was no significant income tax provision or benefit for the three months ended March 31, 2019 or 2018.

11. Net loss per share

Basic net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares and dilutive common stock equivalents outstanding for the period, determined using the treasury stock method and the if-converted method, for convertible securities, if inclusion of these is dilutive.

As the Company has reported a net loss for the periods presented, diluted net loss per common share is the same as basic net loss per common share.

The following potentially dilutive securities outstanding, prior to the use of the treasury stock method or if-converted method, have been excluded from the computation of diluted weighted-average shares outstanding for the periods indicated, because including them would have had an anti-dilutive impact:

	March 31, 2019	March 31, 2018
Options to purchase common stock	2,297,036	3,128,519
Unvested restricted common stock	1,459	3,959
Total	2,298,495	3,132,478

12. Segment Information

The Company operates as two reportable segments:

- The Consumer Operations segment, which reflects the total revenue and costs and expenses related to HOTSHOT and the Company's consumer operations.
- The Drug Development segment, which reflects the costs and expenses related to the Company's efforts to develop innovative and proprietary drug products; previously to treat muscle cramps, spasms and spasticity associated with severe neurological conditions.

The Company discloses information about its reportable segments based on the way that the Company's Chief Operating Decision Maker, who the Company has identified as the Chief Executive Officer, and management, organizes segments within the Company for making operating decisions and assessing financial performance. The Company evaluates the performance of its reportable segments based on revenue and operating income or loss. Although the Company reduced its research and development efforts in connection with its strategic assessment in June 2018, the Company continues to manage and operate as two segments and it is unclear to what extent it may resume research and development activities in the future. The accounting policies of the segments are the same as those described herein as well as those described in Note 2. Corporate and unallocated amounts that do not relate to a reportable segment have been allocated to "Corporate." No asset information has been provided for the Company's reportable segments as management does not measure or allocate such assets on a reportable segment basis.

Information for the Company's reportable segments for the three months ended March 31, 2019 and 2018 are as follows:

Three Months Ended March 31, 2019	Consumer Operations	Drug Development	Corporate	Consolidated
Total revenue	$ 104,977	—	—	$ 104,977
Interest income, net	$ —	—	13,213	$ 13,213
Loss from operations	$ 53,108	384	2,190,151	$ 2,243,643

Three Months Ended March 31, 2018	Consumer Operations	Drug Development	Corporate	Consolidated
Total revenue	$ 178,582	—	—	$ 178,582
Interest income, net	$ —	—	59,593	$ 59,593
Loss from operations	$ 1,257,306	4,664,077	2,361,437	$ 8,282,820

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with the unaudited financial information and the notes thereto included herein, as well as our audited consolidated financial statements and notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2018. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth under "Risk Factors" discussed in our Annual Report on Form 10-K for the year ended December 31, 2018, in other subsequent filings with the SEC, and elsewhere in this Quarterly Report on Form 10-Q. These statements, like all statements in this report, speak only as of the date of this Quarterly Report on Form 10-Q (unless another date is indicated), and we undertake no obligation to update or revise these statements in light of future developments.

Introduction

Our Management's Discussion and Analysis of Financial Condition and Results of Operations, or MD&A, is provided in addition to the accompanying unaudited condensed consolidated financial statements and notes to assist readers in understanding our results of operations, financial condition, and cash flows. MD&A is organized as follows:

Overview - A discussion of our business and overall analysis of financial and other highlights in order to provide context for the remainder of MD&A.

Results of Operations - An analysis of our financial results comparing the three months ended March 31, 2019 to the three months ended March 31, 2018.

Liquidity and Capital Resources - An analysis of changes in our unaudited condensed consolidated balance sheets and cash flows, and discussion of our financial condition and potential sources of liquidity.

Critical Accounting Policies and Significant Judgments and Estimates - A discussion of critical accounting policies and those that require us to make subjective estimates and judgments.

Overview

We, Flex Pharma, or the Company, are a biotechnology company that was previously focused on developing innovative and proprietary treatments for muscle cramps, spasms and spasticity associated with severe neurological conditions. In June 2018, we announced that we were ending our ongoing Phase 2 clinical trials of our lead drug product candidate, FLX-787, in patients with motor neuron disease, or MND, primarily with amyotrophic lateral sclerosis, or ALS, and in patients with Charcot-Marie-Tooth disease, or CMT, due to oral tolerability concerns observed in both studies. The wind-down of the activities associated with these studies was completed in the third quarter of 2018.

In 2016, we launched our consumer product, HOTSHOT®, to prevent and treat exercise-associated muscle cramps, or EAMCs. We continue to market and sell HOTSHOT to endurance athletes who drink it before, during and after exercise to prevent and treat EAMCs.

In June 2018, we initiated a process to explore a range of strategic alternatives for enhancing stockholder value, including the potential sale or merger of the Company. Wedbush PacGrow was engaged to act as our strategic financial advisor at that time. We also announced the restructuring of our organization to reduce our cost structure. In connection with the restructuring plan, we reduced our workforce by approximately 60%, with the reduction complete as of September 30, 2018.

Following an extensive process of evaluating strategic alternatives for the Company, including identifying and reviewing potential candidates for a strategic acquisition or other transaction, on January 3, 2019, we entered into an Agreement and Plan of Merger, or the Merger Agreement, with Salarius Pharmaceuticals, LLC, or Salarius, under which the privately held Salarius will merge with a wholly owned subsidiary of the company. If the merger is completed, the business of Salarius will continue as the business of the combined company.

We expect to devote significant time and resources to the completion of this merger. However, there can be no assurances that such activities will result in the completion of the merger. Further, the completion of the merger may ultimately not deliver the anticipated benefits or enhance shareholder value.

If the merger is not completed, we will reconsider our strategic alternatives. We consider one of the following courses of action to be the most likely alternatives if the merger is not completed:

- *Dissolve and liquidate our assets.* If, for any reason, the merger does not close, our board of directors will most likely conclude that it is in the best interest of stockholders to dissolve the Company and liquidate our assets. In that event, the Company would be required to pay all of our debts and contractual obligations, and to set aside certain reserves for potential future claims. There would be no assurances as to the amount or timing of available cash remaining to distribute to stockholders after paying our obligations and setting aside funds for reserves.

- *Pursue another strategic transaction.* We may resume the process of evaluating a potential strategic transaction in order to attempt another strategic transaction like the merger.

- *Operate the consumer business.* Although less likely than the alternatives above, our board of directors may elect to continue to market and sell HOTSHOT and continue to operate our consumer business.

We currently operate as two reportable segments:

- The Consumer Operations segment, which reflects the total revenue and costs and expense for HOTSHOT and our consumer operations; and

- The Drug Development segment, which reflects the costs and expenses related to our efforts to develop innovative and proprietary drug products; previously to treat muscle cramps, spasms and spasticity associated with severe neurological conditions.

We disclose information about our reportable segments based on the way that we organize segments within the Company for making operating decisions and assessing financial performance. Although the Company reduced its research and development efforts in connection with its strategic assessment in June 2018, the Company continues to manage and operate as two segments and it is unclear to what extent it may resume research and development activities in the future. See Note 12 to our condensed consolidated financial statements for certain financial information related to our reportable segments.

We have incurred an operating loss since our inception and we anticipate that we will continue to incur operating losses for the foreseeable future. Our net loss was $2.2 million for the three months ended March 31, 2019, and $8.2 million for the three months ended March 31, 2018. Our accumulated deficit was $135.2 million as of March 31, 2019. To date, we have financed our operations with net proceeds from the private placement of our preferred stock and our initial public offering. If the merger is not completed, we will need to reassess our strategic options and we may need additional capital to fund our future operations. There can be no assurance that we will be able to secure additional funds or, if such funds are available, whether the terms or conditions will be acceptable to us.

Components of Operating Results

Revenue

We recognize revenue when control of the promised good is transferred to the customer, and it reflects the consideration to which we expect to be entitled to receive in exchange for the good.

Revenue includes sales of HOTSHOT finished goods to e-commerce customers, specialty retailers and sports teams, including professional and amateur teams. Revenue also consists of payments made by customers for expedited shipping and handling. Revenue is recognized when control of the promised goods is transferred to the customer. Control of the promised goods is transferred upon delivery to the customer. For sales through June 18, 2018, we offered refunds to e-commerce customers, upon request, within 30 days of delivery. For sales subsequent to June 18, 2018, we now offer refunds to e-commerce customers, upon request, within 14 days of delivery. We do not offer a right of return or refund to specialty retailers or sports teams. Discounts provided to customers are accounted for as a reduction of product revenue. Total revenue is presented net of any taxes collected from customers and remitted to governmental authorities.

When purchasing via our branded website, customers may purchase HOTSHOT in packs of 3, 6, 12 or 24 bottles, and are offered a first-time purchase discount for a 3 pack. We also sell HOTSHOT via third-party e-commerce websites, including a retailer that offers international shipping. Generally, we realize higher revenue per bottle from our e-commerce sales as opposed to third-party website, sports team and specialty retailer sales. HOTSHOT is generally sold to specialty retailers and sports teams in multi-pack cases.

While the Company continues to operate its Consumer Operations segment and sells HOTSHOT, future sales of HOTSHOT are expected to vary from quarter to quarter and will be impacted by the number of visitors attracted to our branded website and third-party websites, those that purchase, seasonality and the amount of repeat sales that we are able to generate through e-commerce. Future sales will also be impacted by the amount of revenue that we are able to generate through retail channels. Our inability to generate sufficient revenues could have a material adverse impact on our Consumer Operations.

Cost of Product Revenue

We outsource the manufacture of HOTSHOT to a co-packer. Cost of product revenue includes the cost of raw materials utilized to produce HOTSHOT, co-packing fees, repacking fees, in-bound freight charges and warehouse and transportation charges incurred to bring the finished goods to salable condition. All other costs incurred after this condition is met are considered selling costs and included in selling, general and administrative expenses.

Cost of product revenue includes write-offs of inventory that becomes obsolete, that has a cost basis in excess of its estimated realizable value, or that exceeds projected sales. The amount of inventory write-offs will vary based upon factors such as inventory levels, production levels, projected sales of HOTSHOT and shelf-lives of our inventory components. If we are not successful in generating sufficient levels of revenue from HOTSHOT or if our other estimates prove to be inaccurate, future inventory write-offs may be required.

Cost of product revenue also includes depreciation expense related to manufacturing equipment purchased to support production, as well as royalty amounts payable to certain of our founders on HOTSHOT sales.

Research and Development Expenses

Our research and development expenses previously included the costs incurred related to the development and testing of our extract formulation and expenses related to the testing and development of our drug product candidates, including FLX-787, and costs related to ending our Phase 2 clinical studies in MND and CMT. Research and development costs included salaries and other compensation-related costs, such as stock-based compensation for research and development employees and termination benefits, costs of clinical studies of our extract formulation and drug product candidates, drug substance production costs, formulation and production costs of clinical supply, including FLX-787, to support clinical studies, costs for consultants who we utilized to supplement our personnel, fees paid to third parties, facilities and overhead expenses, cost of laboratory supplies and other outside expenses.

Research and development activities have been central to our business model. Drug product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We cannot predict to what extent we will resume drug development activities for FLX-787 or other drug product candidates.

Selling, General and Administrative Expenses

Selling, general and administrative expenses include salaries and other compensation-related costs, including stock-based compensation, for personnel in executive and finance and accounting roles. Other significant costs include professional service fees including consulting and legal and professional fees related to the merger with Salarius, patent and corporate legal matters, accounting fees, insurance costs, costs for consultants who we utilize to supplement our personnel, and facility and office-related costs not included in research and development expenses.

Selling, general and administrative expenses also include costs related to our Consumer Operations segment for our consumer brand and HOTSHOT. These costs include personnel costs, costs related to our marketing, sales and promotional activities, including print and digital media campaigns, public relations activities, field marketing efforts, market research, other sales and promotional activities and costs related to the distribution of HOTSHOT. These distribution costs include shipping and handling costs incurred once the product is in salable condition.

Our selling, general and administrative expenses may increase as we incur costs related to the merger, operate as a public company and continue to sell HOTSHOT.

Interest Income, Net

Interest income, net primarily consists of interest income from our cash, cash equivalents and marketable securities, amortization and accretion of investment premiums and realized gains and losses.

Results of Operations

Three Months Ended March 31, 2019 Compared to the Three Months Ended March 31, 2018

The following table sets forth the condensed consolidated results of our operations, including information related to our Consumer Operations and Drug Development segments, for the three months ended March 31, 2019 compared to the three months ended March 31, 2018.

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	Change $	Change %
Net product revenue	$ 104,220	$ 176,255	$ (72,035)	(41)%
Other revenue	757	2,327	(1,570)	(67)%
Total revenue	104,977	178,582	(73,605)	(41)%
Costs and expenses:				
Cost of product revenue	47,329	83,934	(36,605)	(44)%
Research and development	1,706	4,680,181	(4,678,475)	(100)%
Selling, general and administrative	2,299,585	3,697,287	(1,397,702)	(38)%
Total costs and expenses	2,348,620	8,461,402	(6,112,782)	(72)%
Loss from operations	(2,243,643)	(8,282,820)	6,039,177	(73)%
Interest income, net	13,213	59,593	(46,380)	(78)%
Net loss	$ (2,230,430)	$ (8,223,227)	$ 5,992,797	(73)%

Total Revenue

Our Consumer Operations segment generated all of our revenue during the three months ended March 31, 2019, totaling $0.1 million as compared to $0.2 million for the three months ended March 31, 2018, through sales of HOTSHOT and expedited shipping and handling purchases. The decrease in revenue of $0.1 million relates to decreased marketing spend and activity during the three months ended March 31, 2019 compared to the three months ended March 31, 2018, as we have reduced our Consumer Operations spending while we have been evaluating strategic alternatives for the Company and this segment.

Sales via e-commerce represented approximately 87% of our total revenue for both the three months ended March 31, 2019 and March 31, 2018.

During the three months ended March 31, 2019, we sold approximately 23,000 bottles of HOTSHOT at an average total revenue per bottle of $4.56, compared to 39,000 bottles at an average total revenue per bottle of $4.58 during the three months ended March 31, 2018. The decrease in volume of bottles sold in the comparative periods was primarily due to decreased marketing efforts and resulting demand.

Cost of Product Revenue

All costs of product revenue are recorded by our Consumer Operations segment and relate to the production and sale of HOTSHOT. Cost of product revenue was approximately $47,000 for the three months ended March 31, 2019 and $0.1 million for the three months ended March 31, 2018, and included the cost of HOTSHOT sold, royalty expense and depreciation expense of approximately $23,000 and $35,000 for the three months ended March 31, 2019 and 2018, respectively, related to manufacturing equipment used to support production. There were no write-offs of inventory during the three months ended March 31, 2019 or 2018.

Research and Development Expenses

Our Drug Development segment incurred the majority of our research and development expenses, which were approximately $2,000 for the three months ended March 31, 2019 compared to $4.7 million for the three months ended March 31, 2018. The 100% decrease of $4.7 million was primarily related to:

- $2.9 million decrease in clinical trial costs, primarily related to the decision to end our Phase 2 clinical trials of FLX-787 in MND and CMT, and other supporting studies in the second quarter of 2018;
- $0.6 million decrease in salary and benefit costs due to the elimination of headcount in 2019 compared to the prior year;
- $0.4 million decrease in manufacturing and formulation of drug product to support clinical studies, the majority of which ceased during the second quarter of 2018;
- $0.4 million decrease related to stock-based compensation expense, related to the elimination of headcount compared to the prior year and the final vesting of restricted common stock issued to the founders in 2014 during the first quarter of 2018;
- $0.2 million decrease in consulting expenses due to the reduction of our research and development activities due to our ongoing strategic assessment; and
- $0.2 million decrease in other expenses, mainly insurance and office related costs, related to eliminated headcount compared to the prior year, as these expenses are allocated.

Selling, General and Administrative Expenses

Selling, general and administrative includes expenses that are incurred by our Consumer Operations segment as well as corporate and unallocated amounts that do not relate to a reportable segment. Selling, general and administrative expenses were $2.3 million for the three months ended March 31, 2019 compared to $3.7 million for the three months ended March 31, 2018. The 38% decrease of $1.4 million was primarily related to:

- $0.8 million decrease in marketing and consulting costs within our Consumer Operations segment for HOTSHOT due to decreased marketing and cash conservation efforts;
- $0.6 million decrease related to salaries and benefits as Consumer Operations and corporate headcount decreased from the prior year;
- $0.3 million decrease related to stock-based compensation expense, related to decreased headcount compared to the prior year and the final vesting of restricted common stock issued to the founders in 2014 during the first quarter of 2018;
- $0.1 million decrease in employee travel and recruiting costs, related to decreased Consumer Operations and corporate headcount from the prior year;

- $0.1 million decrease in office and other expenses mainly due to the termination of our lease agreement for our former corporate headquarters in Boston, MA, and other cost saving initiatives; and

- $0.5 million increase in consulting and legal and professional expenses related to $1.2 million in merger related fees, which consisted of $0.7 million of legal and professional fees and $0.5 million of banking fees incurred in Q1 2019, offset by a reduction of $0.7 million as we decreased activity due to our ongoing strategic assessment.

Loss from Operations

Our consolidated loss from operations for the three months ended March 31, 2019 totaled $2.2 million. Of this total, approximately $53,000 of the operating loss was incurred by our Consumer Operations segment, less than $1,000 was incurred by our Drug Development segment and the remaining $2.2 million related to corporate and unallocated costs. The operating loss incurred by the Consumer Operations segment was primarily driven by costs related to HOTSHOT, and personnel-related expenses, including stock-based compensation. These costs were partially offset by the total revenue generated from HOTSHOT sales during the three months ended March 31, 2019. The operating loss incurred by the Drug Development segment relates to stability studies related to the HOTSHOT.

Interest Income, net

Interest income, net, decreased by approximately $46,000 in the three months ended March 31, 2019 compared to the three months ended March 31, 2018, as we had less available cash to invest.

Liquidity and Capital Resources

Overview

Since inception, we have incurred operating losses and we anticipate that we will continue to incur losses for the foreseeable future. To date, we have generated limited revenue from sales of HOTSHOT, and have generated no revenue from any of our drug product candidates.

We cannot predict to what extent we will resume drug development activities for FLX-787 or any other drug product candidates, and we may not be successful in generating significant revenue from HOTSHOT. Our operating plan assumes limited research and development activities and that the Consumer Operations segment will continue to sell HOTSHOT. We cannot predict to what extent we will resume drug development activities and until that time, we do not expect to expend significant amounts on research and development expenses as a result of ending our Phase 2 clinical trials in MND and CMT and the related drug development efforts, and the reduction of research and development staff. Our selling, general and administrative expenses may increase as we continue our efforts related to the merger, operate as a public company, and continue to sell HOTSHOT. There can be no assurance that we will complete the merger with Salarius. If the merger is not completed, we will reconsider our strategic alternatives which may include a dissolution of the company, pursuit of another strategic transaction or the continued operation of the consumer business. Additional capital may be needed to fund operations but there can be no assurances that additional funding will be available on terms acceptable to us, or at all.

Sources of Liquidity

At March 31, 2019, we had $7.2 million of working capital and our cash and cash equivalents totaled $7.3 million, which were held in bank deposit accounts and money market funds. The Company held no marketable securities at March 31, 2019 or December 31, 2018. Our cash and cash equivalents balance decreased during the three months ended March 31, 2019, due primarily to our net loss incurred.

In the event that we do not complete the merger, we may pursue a dissolution and liquidation of the Company. If the decision is made to dissolve and liquidate the Company, our common stockholders may lose their entire investment. The amount of assets available for distribution to our stockholders will depend heavily on the timing of such liquidation as well as the amount of cash that will be needed for commitments and contingent liabilities.

Cash Flows

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Net cash (used in) provided by:		
Operating activities	$ (2,658,751)	$ (9,412,487)
Investing activities	—	12,119,933
Financing activities	—	54,913
Net decrease in cash and cash equivalents	$ (2,658,751)	$ 2,762,359

Operating Activities

Net cash used in operating activities for the three months ended March 31, 2019 was $2.7 million, a decrease of $6.8 million compared to the same period in the prior year. The use of cash for the three months ended March 31, 2019 was primarily related to our net loss for the period of $2.2 million, offset by non-cash charges consisting of stock-based compensation expense of $0.2 million. Cash used in operations also included a cash outflow of $0.7 million from changes in operating assets and liabilities.

The $0.7 million cash outflow from changes in operating assets and liabilities was driven primarily by outflows from a decrease in accounts payable of $0.2 million and an increase in prepaid expenses and other current assets of $0.5 million. The decrease in accounts payable relates to decreased spending at March 31, 2019 compared to December 31, 2018. The increase of prepaid expenses and other current assets primarily relates insurance payments made in the first quarter of 2019.

Investing Activities

There was no cash provided by or used in investing activities for the three months ended March 31, 2019 and it decreased $12.1 million from the three months ended March 31, 2018, related to a $12.1 million decrease in net purchases and sales of marketable securities. This included a $2.0 million decrease in purchases of marketable securities and a $14.1 million decrease in proceeds from maturities and sales of marketable securities. We do not have any marketable securities as of March 31, 2019.

Financing Activities

There was no cash provided by or used in financing activities for the three months ended March 31, 2019 and it decreased $0.1 million compared to the three months ended March 31, 2018, related to proceeds from exercises for options of common stock of approximately $55,000 during the three months ended March 31, 2018.

As of March 31, 2019, we had no long-term debt.

We currently have no ongoing material financial commitments, such as lines of credit or guarantees that are expected to affect our liquidity over the next five years.

Funding Requirements

Our future funding requirements are difficult to forecast and depend on many factors, including our ability to complete the merger and the timing for completion of the merger or, if the merger is not completed, our ability to identify and consummate another strategic transaction or consider other alternatives such as dissolution of the Company. Depending on the outcome of these alternatives, we may need additional capital to fund our operations. There can be no assurances, however, that additional funding will be available on terms we deem to be acceptable, or at all. If we raise additional funds through the issuance of additional debt or equity securities, it could result in dilution to our existing stockholders, increased fixed payment obligations and these securities may have rights senior to those of the Company's common stock. If the Company incurs indebtedness, we could become subject to covenants that would restrict our operations and potentially impair our competitiveness, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. Any of these events could significantly harm our business, financial condition and prospects.

Drug Product Candidates

We cannot predict to what extent we will resume drug development activities for FLX-787 or other drug product candidates. To the extent that we pursue drug development activities in the future, the successful development of any drug product candidate is highly uncertain. As such, at this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the development of future drug product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from the sale of drug product candidates. This is due to the numerous risks and uncertainties associated with developing drug products, including the uncertainty of:

- receiving regulatory approval to conduct clinical trials;
- successfully enrolling, and completing, clinical trials;
- receiving marketing approvals from applicable regulatory authorities;
- establishing arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity; and
- launching commercial sales of our products, if and when approved, whether alone or in collaboration with others.

A change in the outcome of any of these variables with respect to the development of any of our drug product candidates would significantly change the costs and timing associated with the development of that drug product candidate.

Consumer Brand and Products

The development and growth of HOTSHOT is uncertain, including the timing and resources needed to support successful commercialization. The success of HOTSHOT depends, in large part, on a growth strategy that establishes distribution and placement of the product, attracts consumers and maintains brand loyalty. Delays or unexpected costs related to HOTSHOT could significantly change the costs and timing of expenses associated with our consumer operations.

On January 22, 2018, we disclosed that we engaged an investment banking firm to assist with the consideration of strategic alternatives for our consumer business segment. In connection with the restructuring plan announced in June 2018, we elected to reduce the expenses associated with our consumer business segment while we assessed strategic alternatives for the Company and this segment. The Company is continuing to assess alternatives for the Consumer Operations segment.

Outlook

Based on our research and development plans and our consumer brand and HOTSHOT expenditure plans, we expect that our existing cash resources will enable us to fund our costs and expenses, working capital and capital expenditure requirements for at least 12 months from the date the financial statements are issued. We based this estimate on assumptions that may prove to be wrong, however, and we could use our capital resources sooner than expected.

Contractual Obligations

There have been no material changes to our contractual obligations from those described in our Annual Report on Form 10-K for the year ended December 31, 2018.

Off-Balance Sheet Arrangements

We did not have during the period presented, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities as of the date of the condensed consolidated balance sheet and the reported amounts of expenses during the reporting period. In accordance with GAAP, we base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances at the time such estimates are made. Actual results may differ materially from our estimates and judgments under different assumptions or conditions. We periodically review our estimates in light of changes in circumstances, facts and experience. The effects of material revisions in estimates are reflected in our consolidated financial statements prospectively from the date of the change in estimate.

There have been no material changes to our critical accounting policies from those described in "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our Annual Report on Form 10-K for the year ended December 31, 2018.

Readers should refer to our 2018 Form 10-K under “Management’s Discussion and Analysis of Financial Condition and Results of Operation—Critical Accounting Policies and Use of Estimates” and Note 2 to the accompanying financial statements for descriptions of these policies and estimates.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates. As of March 31, 2019, we had cash and cash equivalents of $7.3 million. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Available-for-sale securities that we invest in are subject to interest rate risk and may fall in value if market interest rates increase. As of March 31, 2019, our cash was invested in money market funds, and we did not have any marketable securities. Therefore, we have minimal market risk related to the fair market value of our portfolio.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our periodic and current reports that we file under the Exchange Act with the SEC is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and our Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

As of March 31, 2019, we have evaluated, under the supervision and with the participation of our management, including the Chief Executive Officer and the Chief Financial Officer, the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Exchange Act Rule 13a-15. Based upon our evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

During the three months ended March 31, 2019, there was no significant change in our internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

On March 1, 2019, Nahuel Malzone, a purported stockholder of the Company, sent us a written demand letter and draft complaint alleging that (i) the Company and the members of our board of directors violated Section 14(a) of the Securities Exchange Act of 1934, as amended, the Exchange Act, and Rule 14a-9 promulgated thereunder, by filing a proxy statement, which allegedly failed to disclose and/or misrepresented material information about the proposed merger with Salarius and (ii) the members of the board of directors, as control persons of the Company, violated Section 20(a) of the Exchange Act in connection with the filing of the allegedly materially deficient proxy statement. Mr. Malzone demanded that the Company provide certain corrective disclosures to the proxy statement/prospectus/information statement. The Company is reviewing the demand letter and it will respond appropriately.

Item 1A. Risk Factors

You should carefully review and consider the information regarding certain factors that could materially affect our business, financial condition or future results set forth under Part I, Item 1A. (Risk Factors) in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, or the Annual Report.

There have been no material changes to the risk factors included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Recent sales of unregistered securities; repurchases of equity securities

None.

Use of Proceeds

In February 2015, we completed our initial public offering pursuant to a registration statement on Form S-1 (File No. 333-201276), which the SEC declared effective on January 28, 2015. In our initial public offering, we issued and sold 5,491,191 shares of common stock (inclusive of 91,191 shares of common stock sold by us pursuant to the exercise of an overallotment option granted to the underwriters in connection with the offering) at a public offering price of $16.00 per share, for aggregate gross offering proceeds of $87.9 million. The managing underwriters for our initial public offering were Jefferies LLC, Piper Jaffray & Co., JPM Securities LLC, Cantor Fitzgerald & Co., and Roth Capital Partners, LLC.

The aggregate net proceeds received by us from our initial public offering were $79.9 million, net of underwriting discounts and commissions and offering expenses payable by us. No offering expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning 10% or more of any class of our equity securities or to any other affiliates.

Proceeds from our initial public offering are being used for general corporate purposes, costs related to the merger with Salarius and costs to support the continued marketing and sales of HOTSHOT.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit number		Description of Document
2.1	(1)	Agreement and Plan of Merger dated January 3, 2019 by and among the Registrant, Falcon Acquisition Sub, LLC and Salarius Pharmaceuticals, LLC.
3.1	(2)	Amended and Restated Certificate of Incorporation of the Registrant.
3.2	(3)	Amended and Restated Bylaws of the Registrant.
4.1	(4)	Form of Common Stock Certificate of the Registrant.
4.2	(5)	Amended and Restated Investors' Rights Agreement, dated July 23, 2014, by and among the Company and certain of its stockholders.
31.1		Certification of the Principal Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
31.2		Certification of the Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
32.1		Certification of Principal Executive Officer and Principal Financial Officer pursuant to Rule 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350.
101		The following materials from Flex Pharma, Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, formatted in XBRL (eXtensible Business Reporting Language):(i) Unaudited Condensed Consolidated Balance Sheets, (ii) Unaudited Condensed Consolidated Statements of Operations (iii) Unaudited Condensed Consolidated Statements of Comprehensive Loss, (iv) Unaudited Condensed Consolidated Statements of Cash Flows, and (v) Notes to Unaudited Condensed Consolidated Financial Statements.

(1) Incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K (File No. 001-36812), filed with the SEC on January 4, 2019.

(2) Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-36812), filed with the SEC on February 9, 2015.

(3) Incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-36812), filed with the SEC on February 9, 2015.

(4) Incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-201276), as amended, filed with the SEC on January 13, 2015.

(5) Incorporated by reference to the Registrant's Registration Statement on Form S-1 (File No. 333-201276), filed with the SEC on December 29, 2014.

SIGNATURES

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

FLEX PHARMA, INC.

By: /s/ William McVicar

William McVicar, Ph.D.
President and Chief Executive Officer (Principal Executive Officer)

By: /s/ John McCabe

John McCabe
Chief Financial Officer (Principal Financial and Accounting Officer)

Date: May 1, 2019

Exhibit 31.1

Certification Pursuant to Securities Exchange Act Rules 13a-14 and 15d-14 as adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, William McVicar, President and Chief Executive Officer, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Flex Pharma, Inc.;

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

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

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

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

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

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

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

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

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

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

/s/ William McVicar

William McVicar, Ph.D.

President and Chief Executive Officer
(Principal Executive Officer)

May 1, 2019

Exhibit 31.2

Certification Pursuant to Securities Exchange Act Rules 13a-14 and 15d-14 as adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, John McCabe, Chief Financial Officer, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Flex Pharma, Inc.;

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

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

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

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

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

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

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

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

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

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

/s/ John McCabe

John McCabe

Chief Financial Officer
(Principal Financial and Accounting Officer)

May 1, 2019

Exhibit 32.1

Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Quarterly Report on Form 10-Q of Flex Pharma, Inc. (the "Company") for the fiscal period ended March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of their knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

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

	/s/ William McVicar
	William McVicar, Ph.D.
May 1, 2019	President and Chief Executive Officer (Principal Executive Officer)
	/s/ John McCabe
	John McCabe
May 1, 2019	Chief Financial Officer (Principal Financial and Accounting Officer)

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Flex Pharma, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.