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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 September 30, 2017

OR

o **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)

800 Boylston Street, 24th Floor, Boston, MA 02199
(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 o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 o	Accelerated Filer ☒	Non-accelerated Filer o	Smaller Reporting Company o	Emerging Growth Company ☒
		(Do not check if a smaller reporting 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 o No ☒

As of November 3, 2017, there were 17,971,816 shares of common stock outstanding.

FLEX PHARMA, INC.

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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 development of our drug product candidates, including the timing of our planned and ongoing clinical trials, and expectations regarding the commercial prospects of our consumer product, the expected timing for the reporting of data from our ongoing and future studies, prospects, plans and objectives of management, are forward looking statements. 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 status, timing, costs, results and interpretation of our clinical trials; the uncertainties inherent in conducting clinical trials; results from our ongoing and planned pre-clinical development; expectations of our ability to make regulatory filings and obtain and maintain regulatory approvals; our ability to develop and commercialize our consumer products; anticipated attributes of our consumer products; results of early clinical studies as indicative of the results of future trials; availability of funding sufficient for our foreseeable and unforeseeable operating expenses and capital expenditure requirements; other matters that could affect the availability or commercial potential of our consumer or 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, 2016 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)

	September 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 20,152,129	$ 22,416,040
Marketable securities	18,776,390	38,658,933
Accounts receivable	35,134	12,181
Inventory	533,996	454,132
Prepaid expenses and other current assets	1,056,179	925,983
Total current assets	40,553,828	62,467,269
Property and equipment, net	400,991	556,315
Other assets	—	64,800
Restricted cash	253,190	126,595
Total assets	$ 41,208,009	$ 63,214,979
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 919,030	$ 1,192,183
Accrued expenses and other current liabilities	3,897,184	2,587,573
Deferred revenue	97,571	88,344
Deferred rent, current portion	58,821	21,095
Total current liabilities	4,972,606	3,889,195
Deferred rent, net of current portion	53,919	8,398
Total liabilities	5,026,525	3,897,593
Stockholders' equity:		
Preferred stock, $0.0001 par value; 10,000,000 shares authorized at September 30, 2017 and December 31, 2016; none issued or outstanding at September 30, 2017 and December 31, 2016	—	—
Common stock, $0.0001 par value; 100,000,000 shares authorized at September 30, 2017 and December 31, 2016; 17,971,816 and 17,970,590 shares issued at September 30, 2017 and December 31, 2016, and 17,541,377 and 16,773,798 shares outstanding at September 30, 2017 and December 31, 2016, respectively	1,754	1,678
Additional paid-in capital	139,231,785	135,962,935
Accumulated other comprehensive loss	(1,311)	(1,614)
Accumulated deficit	(103,050,744)	(76,645,613)
Total stockholders' equity	36,181,484	59,317,386
Total liabilities and stockholders' equity	$ 41,208,009	$ 63,214,979

See accompanying notes to condensed consolidated financial statements.

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

	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Net product revenue	$ 407,241	$ 586,134	$ 978,221	$ 698,819
Other revenue	6,360	12,940	13,450	12,940
Total revenue	413,601	599,074	991,671	711,759
Costs and expenses:				
Cost of product revenue	148,756	221,090	373,187	529,041
Research and development	4,739,360	5,665,357	12,730,554	16,147,357
Selling, general and administrative	4,934,937	5,447,847	14,520,596	15,937,326
Total costs and expenses	9,823,053	11,334,294	27,624,337	32,613,724
Loss from operations	(9,409,452)	(10,735,220)	(26,632,666)	(31,901,965)
Interest income, net	77,339	97,726	227,535	308,877
Net loss	$ (9,332,113)	$ (10,637,494)	$ (26,405,131)	$ (31,593,088)
Net loss attributable to common stockholders	$ (9,332,113)	$ (10,637,494)	$ (26,405,131)	$ (31,593,088)
Net loss per share attributable to common stockholders — basic and diluted	$ (0.54)	$ (0.65)	$ (1.54)	$ (1.96)
Weighted-average number of common shares outstanding — basic and diluted	17,386,249	16,361,617	17,131,887	16,104,510

See accompanying notes to condensed consolidated financial statements.

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

	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Net loss	$ (9,332,113)	$ (10,637,494)	$ (26,405,131)	$ (31,593,088)
Other comprehensive gain (loss):				
Unrealized gain (loss) on available-for-sale securities	4,305	(24,818)	303	39,326
Comprehensive loss	$ (9,327,808)	$ (10,662,312)	$ (26,404,828)	$ (31,553,762)

See accompanying notes to condensed consolidated financial statements.

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

	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Operating activities		
Net loss	$ (26,405,131)	$ (31,593,088)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	250,563	165,373
Stock-based compensation expense	3,266,879	5,367,070
Amortization and accretion on investments	(38,551)	117,236
Changes in operating assets and liabilities:		
Restricted cash	(126,595)	240
Accounts receivable	(22,953)	(21,787)
Inventory	(79,864)	(109,701)
Prepaid expenses and other current assets	(130,196)	(645,696)
Other assets	64,800	(64,800)
Accounts payable	(274,525)	321,460
Accrued expenses and other current liabilities	1,309,611	647,455
Deferred revenue	9,227	81,399
Deferred rent	83,247	(3,056)
Other long term liabilities	—	(15,442)
Net cash used in operating activities	(22,093,488)	(25,753,337)
Investing activities		
Purchases of marketable securities	(23,364,721)	(28,086,686)
Proceeds from maturities and sales of marketable securities	43,286,118	15,469,810
Purchases of property and equipment	(98,100)	(508,987)
Proceeds from sales of property and equipment	4,233	—
Net cash provided by (used in) investing activities	19,827,530	(13,125,863)
Financing activities		
Proceeds from exercise of common stock	2,047	22,096
Net cash provided by financing activities	2,047	22,096
Net decrease in cash and cash equivalents	(2,263,911)	(38,857,104)
Cash and cash equivalents at beginning of period	22,416,040	66,686,695
Cash and cash equivalents at end of period	$ 20,152,129	$ 27,829,591
Supplemental cash flow information		
Property and equipment purchases included in accounts payable at September 30, 2017	$ 8,472	$ —
Property and equipment purchases included in accounts payable and accrued expenses at December 31, 2016 and 2015	$ 7,100	$ 106,680
Inventory purchases included in accrued expenses at September 30, 2016	$ —	$ 121,077

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 is developing innovative and proprietary treatments for muscle cramps and spasticity associated with severe neurological conditions and exercise-associated muscle cramps. In August 2017, the Company initiated a Phase 2 clinical trial in the United States of its lead drug product candidate, FLX-787, in patients with motor neuron disease, or MND, primarily with amyotrophic lateral sclerosis, or ALS, who suffer from cramps. The Company also initiated an additional Phase 2 clinical trial in October 2017 in patients with Charcot-Marie-Tooth disease, or CMT, who suffer from cramps. FLX-787 is currently in an exploratory Phase 2 spasticity study in Australia in patients with multiple sclerosis, or MS. In 2016, the Company launched its consumer product, HOTSHOT®, to prevent and treat exercise-associated muscle cramps, or EAMCs.

FLX-787, HOTSHOT and the Company's other product candidates are based on the potential mechanism of action the Company describes as chemical neurostimulation, which is the process by which a chemical signal, acting topically, induces a neuronal sensory signal that produces a beneficial effect. The Company's product candidates activate certain receptors in primary sensory neurons, which then act via neuronal circuits to reduce hyperexcitability, which can result in the repetitive firing of alpha-motor neurons in the spinal cord, thereby preventing or reducing the frequency and intensity of muscle cramps and spasms.

The Company operates as two reportable segments, Consumer Operations and Drug Development. See Note 11 for additional discussion and information on the reportable segments.

The Company is subject to risks common to companies in the biotechnology and consumer products industries, including, but not limited to, risks of failure of pre-clinical studies and clinical trials, the need to obtain marketing approval for its drug product candidates, the need to successfully commercialize and gain market acceptance of its drug product candidates and its consumer products, dependence on key personnel, protection of proprietary technology, compliance with government regulations and development by competitors of alternative products.

Liquidity

The Company has incurred an accumulated deficit of $103,050,744 since inception and will require substantial additional capital to fund its research and development and commercialization and growth of its consumer brand and HOTSHOT. The Company had unrestricted cash, cash equivalents and marketable securities of $38,928,519 at September 30, 2017. The Company believes that its existing cash, cash equivalents and marketable securities 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. Management expects the Company to incur a loss for the foreseeable future. The Company's ability to achieve profitability in the future is dependent upon the successful development, approval and commercialization of its drug product candidates and successful commercialization of HOTSHOT and future consumer products, and 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. Management intends to fund future operations through additional private or public debt or equity offerings, and may seek additional capital through arrangements with collaborators or from other sources. 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 September 30, 2017, 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, 2016 (the “2016 10-K”), have not changed, other than as noted below.

Revenue

Revenue is comprised of net product revenue and other revenue. Net product revenue includes sales of HOTSHOT finished goods to e-commerce customers, specialty retailers and sports teams, including professional and collegiate teams. Other revenue consists of payments made by customers for expedited shipping and handling, which the Company began offering during the third quarter of 2016. Revenue is recognized when persuasive evidence of an arrangement exists, delivery of the product has occurred, the sales price is fixed or determinable and collectibility is reasonably assured. The Company issues refunds to e-commerce customers, upon request, within 30 days of delivery. As the Company currently does not have adequate history to accurately estimate refunds, all e-commerce sales, and their related costs, are deferred and revenue is recognized once the refund period lapses. This deferral represents total deferred revenue presented on the Company's consolidated balance sheet. 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 a reduction of net product revenue.

Net product revenue and other revenue are presented net of taxes collected from customers and remitted to governmental authorities.

The Company had no customers that represented greater than 10% of total revenue during the three and nine months ended September 30, 2017. The vast majority of revenue was generated from sales within the United States.

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 collectibility is reasonably assured. Receivables are evaluated for collectibility on a regular basis and an allowance for doubtful accounts is recorded, if necessary.

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 $1,158,000 and $3,073,000 for the three and nine months ended September 30, 2017 and approximately $1,154,000 and $2,580,000 for the three and nine months ended September 30, 2016.

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 partner is capitalized as inventory and expensed as a cost of product revenue when revenue is recognized. Shipping and handling costs to move finished goods from the Company's warehousing partner to the Company's third-party fulfillment partner or to customer locations are included in selling, general and administrative expenses in the condensed consolidated statement of operations, and were approximately $64,000 and $145,000 for the three and nine months ended September 30, 2017, and approximately $98,000 and $126,000 for the three and nine months ended September 30, 2016.

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 2016 10-K.

The condensed consolidated financial statements as of September 30, 2017, for the three and nine months ended September 30, 2017 and 2016, 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 September 30, 2017, and the statements of operations, comprehensive loss and cash flows for the three and nine month periods ended September 30, 2017 and 2016. The results for the three and nine months ended September 30, 2017 are not necessarily indicative of results to be expected for the year ending December 31, 2017, 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 United States generally accepted accounting principles as found in the Accounting Standards Codification ("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 condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries: TK Pharma, Inc., a Massachusetts Securities Corporation, and Flex Innovation Group LLC, a Delaware limited liability company, which contains the Company's consumer-related operations. All significant intercompany balances and transactions have been eliminated in consolidation.

Concentration of risk

The Company outsources the manufacture of HOTSHOT to a single co-packer that produces bottled finished goods. The Company also sources certain raw materials from sole suppliers. A disruption in the supply of materials or the production of finished goods could significantly impact the Company's revenues in the future as alternative sources of raw materials and co-packing may not be available at commercially reasonable rates or within a reasonably short period of time.

Recent accounting pronouncements

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The ASU provides for a single comprehensive model for use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance. The accounting standard is effective for interim and annual periods beginning after December 15, 2016 with no early adoption permitted. In July 2015, the FASB deferred the effective date of this accounting update to annual periods beginning after December 15, 2017, along with an option to permit early adoption as of the original effective date. The Company is required to adopt the standard in the ASU using one of two acceptable methods: retrospectively to all prior reporting periods presented, with certain practical expedients permitted; or retrospectively with the cumulative effect of initially adopting the ASU recognized at the date of initial application. In March 2016, the FASB issued ASU No. 2016-08, *Revenue from Contracts with Customers, Principal versus Agent Considerations (Reporting Revenue Gross versus Net),* clarifying the implementation guidance on principal versus agent considerations. Specifically, an entity is required to determine whether the nature of a promise is to provide the specified good or service itself (that is, the entity is a principal) or to arrange for the good or service to be provided to the customer by the other party (that is, the entity is an agent). The determination influences the timing and amount of revenue recognition. The effective date and transition requirements for ASU No. 2016-08 are the same as the effective date and transition requirements for ASU No. 2014-09.

The Company is currently evaluating the adoption impact of the guidance related to the Company's sales of HOTSHOT. The Company plans to adopt the standard retrospectively to all prior reporting periods presented. Based on evaluation of the Company's current revenue streams, the Company does not expect the new guidance to change the total amount of revenue recognized, but may accelerate the timing of when revenue is recognized. The Company expects that the guidance will impact the consolidated statement of operations and balance sheet, but cannot yet quantify those impacts at this time. The Company has completed an initial impact analysis, including reviewing the terms and conditions of its contracts. The Company is in the process of finalizing its accounting policy, and, once finalized, the Company will design and implement necessary changes to processes and controls to allow for proper recognition, presentation and disclosure upon adoption effective in the beginning of fiscal year 2018. The FASB has issued, and may issue in the future, interpretive guidance which may cause the Company's evaluation to change.

In July 2015, the FASB issued ASU No. 2015-11, *Inventory (Topic 330)*. This ASU simplifies the measurement of inventory by requiring certain inventory to be measured at the lower of cost or net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The amendments in this ASU are effective for fiscal years beginning after December 15, 2016 and for interim periods therein. Subsequent measurement is unchanged for inventory measured using LIFO or the retail inventory method. The Company adopted this ASU as of March 31, 2017, which did not have a material impact on its condensed consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, *Leases*. The ASU requires lessees to recognize assets and liabilities on their balance sheet for the right of use ("ROU") and obligations created by most leases, and to continue to recognize expenses on their income statements over the lease term. It will also require 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. Early adoption is permitted for all entities. While the Company is currently evaluating the effect this standard will have on its consolidated financial statements and timing of adoption, the Company expects that upon adoption, it will recognize ROU assets and lease liabilities and those amounts could be material.

In March 2016, the FASB issued ASU No. 2016-09 *Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting.* This ASU simplifies the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The guidance is effective for annual reporting periods beginning after December 15, 2016, and interim periods within those annual periods. The Company adopted the new standard on January 1, 2017 and has elected to account for forfeitures as they occur. The change was applied on a modified retrospective basis with a cumulative effect adjustment to increase retained earnings by approximately $2,000, as of January 1, 2017. In addition, upon adoption of the new standard, the Company has additional deferred tax assets related to tax deductions from excess tax benefits related to the exercise of stock options. As a result, the deferred tax assets associated with net operating losses increased by $50,000 in the first quarter of 2017. The amounts are offset by a corresponding increase in the valuation allowance, therefore, there is no net effect on the Company’s results of operations for the three or nine months ended September 30, 2017.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows*, which amends ASU Topic 230. This update requires entities to show the changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. As a result, entities will no longer be required to present transfers between cash and cash equivalents and restricted cash and restricted cash equivalents in the statement of cash flows. When cash, cash equivalents, restricted cash and restricted cash equivalents are presented in more than one line item on the balance sheet, the new guidance requires a reconciliation of the totals in the statement of cash flows to the related captions in the balance sheet. Entities will also have to disclose the nature of their restricted cash and restricted cash equivalent balances. The guidance is effective for fiscal years beginning after December 15, 2017 and interim periods within those years. Early adoption is permitted. Entities are required to apply the guidance retrospectively. The Company is currently evaluating the effect of adopting this new accounting guidance.

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. Fair value measurements

The Company records cash equivalents and marketable securities 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 and marketable securities measured at fair value on a recurring basis as of September 30, 2017 and December 31, 2016:

	Level 1	Level 2	Level 3	Balance as of September 30, 2017
Cash equivalents	$ 6,326,982	$ —	$ —	$ 6,326,982
Marketable securities:				
U.S. government agency securities	—	12,481,959	—	12,481,959
Commercial paper	—	6,294,431	—	6,294,431
	$ 6,326,982	$ 18,776,390	$ —	$ 25,103,372

	Level 1	Level 2	Level 3	Balance as of December 31, 2016
Cash equivalents	$ 11,681,074	$ —	$ —	$ 11,681,074
Marketable securities:				
U.S. government agency securities	—	31,059,491	—	31,059,491
Commercial paper	—	6,081,202	—	6,081,202
Corporate debt securities	—	1,518,240	—	1,518,240
	$ 11,681,074	$ 38,658,933	$ —	$ 50,340,007

Cash equivalents and marketable securities 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 pricing services utilize industry standard valuation models, including both income and market based approaches and observable market inputs to determine value. The majority of 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 September 30, 2017. After completing its validation procedures, the Company did not adjust or override any fair value carrying amounts as of September 30, 2017.

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 September 30, 2017 and December 31, 2016, 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 nine months ended September 30, 2017 or the year ended December 31, 2016. The Company had no financial assets or liabilities that were classified as Level 3 at any time during the nine months ended September 30, 2017 or the year ended December 31, 2016.

4. Cash equivalents and marketable securities

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. Cash equivalents as of September 30, 2017 and December 31, 2016 consisted of money market funds.

Marketable securities as of September 30, 2017 consisted of U.S. government agency securities and commercial paper. Marketable securities as of December 31, 2016 consisted of U.S. government agency securities, commercial paper and corporate debt securities. Management determines the appropriate classification of the securities at the time they are acquired and evaluates the appropriateness of such classifications at each balance sheet date. The Company classifies its marketable securities as available-for-sale pursuant to ASC 320, *Investments – Debt and Equity Securities*. Marketable securities are recorded at fair value, with unrealized gains and losses included as a component of accumulated other comprehensive income (loss) in stockholders' equity and a component of total comprehensive income (loss) in the condensed consolidated statement of comprehensive income (loss), until realized. Realized gains and losses are included in investment income on a specific-identification basis. There were no realized gains on marketable securities during the three and nine months ended September 30, 2017, and there were immaterial realized gains on marketable securities during the three and nine months ended September 30, 2016.

The Company reviews marketable securities for other-than-temporary impairment whenever the fair value of a marketable security is less than the amortized cost and evidence indicates that a marketable security's carrying amount is not recoverable within a reasonable period of time. Other-than-temporary impairments of investments are recognized in the consolidated statement of operations if the Company has experienced a credit loss, has the intent to sell the marketable security, or if it is more likely than not that the Company will be required to sell the marketable security before recovery of the amortized cost basis. Evidence considered in this assessment includes reasons for the impairment, compliance with the Company's investment policy, the severity and the duration of the impairment and changes in value subsequent to the end of the period.

Marketable securities at September 30, 2017 and December 31, 2016 consisted of the following:

	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
As of September 30, 2017				
Current (due within 1 year):				
U.S. government agency securities	$ 12,483,270	$ 298	$ (1,609)	$ 12,481,959
Commercial paper	6,294,431	—	—	6,294,431
Total	$ 18,777,701	$ 298	$ (1,609)	$ 18,776,390

	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
As of December 31, 2016				
Current (due within 1 year):				
U.S. government agency securities	$ 31,060,710	$ 2,912	$ (4,131)	$ 31,059,491
Commercial paper	6,081,202	—	—	6,081,202
Corporate debt securities	1,518,635	—	(395)	1,518,240
Total	$ 38,660,547	$ 2,912	$ (4,526)	$ 38,658,933

The Company held five and six debt securities that were in an unrealized loss position at September 30, 2017 and December 31, 2016, respectively, all of which have been in a continuous loss position for less than 12 months. The aggregate fair value of debt securities in an unrealized loss position was $9,483,010 and $16,519,620 at September 30, 2017 and December 31, 2016, respectively. There were no individual securities that were in a

significant unrealized loss position as of September 30, 2017 or December 31, 2016. The Company evaluated its securities for other-than-temporary impairment and no marketable securities were considered to be other-than-temporarily impaired as of September 30, 2017.

At September 30, 2017 and December 31, 2016, all investments held by the Company were classified as current. Investments classified as current have maturities of less than one year. Investments classified as noncurrent are those that (i) have a maturity greater than one year and (ii) management does not intend to liquidate within the next year, although these funds are available for use and therefore classified as available-for-sale.

5. Inventory

The Company began capitalizing inventory as of March 31, 2016, when it was determined that the inventory had a probable future economic benefit. Inventory has been recorded at cost as of September 30, 2017 and December 31, 2016. Costs capitalized at September 30, 2017 and December 31, 2016 relate to HOTSHOT finished goods, as well as raw materials available to be used for future production runs.

The following table presents inventory:

	September 30, 2017	December 31, 2016
Raw materials	$ 29,409	$ 19,888
Finished goods	504,587	434,244
Total inventory	$ 533,996	$ 454,132

In the second quarter of 2017, the Company completed a production run of HOTSHOT, and wrote off raw materials purchased for the production run that are not expected to be used in future production runs. In the third quarter of 2017, the Company wrote off expiring finished goods not anticipated to be sold. In 2016, the Company wrote off raw materials purchased for production runs of HOTSHOT that were not expected to be used in future production runs, as well as finished goods not expected to be sold based upon projected sales, estimated product shelf life, the number of units produced and production level requirements.

Write-offs totaled $14,701 and $34,235 for the three and nine months ended September 30, 2017, and $32,734 and $258,684 for the three and nine months ended September 30, 2016, respectively, and were included in cost of product revenue in the accompanying condensed consolidated statement of operations.

The cost of product revenue related to deferred revenue is capitalized and recorded as cost of product revenue at the time the revenue is recognized.

6. Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consisted of the following:

	September 30, 2017	December 31, 2016
Research and development costs	$ 2,784,448	$ 938,665
Payroll and employee-related costs	790,518	1,453,665
Professional fees	187,173	153,219
Consumer product-related costs	135,045	42,024
Total	$ 3,897,184	$ 2,587,573

7. Common stock

As of September 30, 2017, 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 founders

In March 2014, the Company sold 4,553,415 shares of restricted common stock to the founders of the Company ("recipients"), for $0.0004 per share, for total proceeds of $1,950. In April 2014, based upon anti-dilution provisions granted to the founders, an additional 867,314 shares of restricted common stock were sold to the same founders, after which the anti-dilution provisions were terminated. The restricted common stock vested 25% upon issuance, and the remaining 75% vests ratably over four years, during which time the Company has the right to repurchase the unvested shares held by a recipient if the relationship between such recipient and the Company ceases. If the relationship terminates, the Company has 90 days to repurchase unvested shares at $0.0004 per share. Such shares are not accounted for as outstanding until they vest. There were 4,996,999 shares of restricted common stock outstanding as of September 30, 2017. Unvested restricted common stock awards to non-employees are re-measured at each vest date and each financial reporting date.

The following is a summary of restricted common stock activity:

	Number of Shares	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2016	1,185,958	$ 0.10
Issued	—	—
Vested	(762,228)	0.10
Forfeited	—	—
Unvested at September 30, 2017	423,730	$ 0.10

Restricted common stock to consultants

In 2016, the Company issued 18,194 shares of restricted common stock to non-employee consultants and advisors. The Company has the right to repurchase any unvested shares held by a recipient if the relationship between such recipient and the Company ceases. If the relationship terminates, the Company has 90 days to repurchase unvested shares at $0.0001 per share. Such shares are not accounted for as outstanding until they vest. There were 11,485 shares of restricted common stock issued to consultants outstanding as of September 30, 2017. Unvested restricted common stock awards to non-employees are re-measured at each vest date and each financial reporting date.

The following is a summary of restricted common stock activity:

	Number of Shares	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2016	10,834	$ 9.72
Issued	—	—
Vested	(4,125)	8.95
Forfeited	—	—
Unvested at September 30, 2017	6,709	$ 10.19

8. 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 to purchase up to 116,754 shares of common stock. In April 2014, the Company amended the 2014 Plan to reserve for the issuance of up to 1,451,087 shares of common stock pursuant to equity awards. In September 2014, the Company further amended the 2014 Plan to reserve for the issuance of up to 2,070,200 shares of common stock pursuant to equity awards. 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 of directors 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 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 September 30, 2017, there were 738,248 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 are 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. Unvested awards to non-employees are re-measured at each vest date and at each financial reporting date. The following table summarizes stock option activity for employees and non-employees for the nine months ended September 30, 2017:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2016	2,156,250	$ 8.66	7.94	$ 1,605,684
Granted	1,018,500	4.23		
Exercised	(1,226)	1.67		
Cancelled or forfeited	(471,602)	9.37		
Outstanding at September 30, 2017	2,701,922	$ 6.87	7.60	$ 731,233
Exercisable at September 30, 2017	1,359,109	$ 7.49	6.40	$ 610,027
Vested or expected to vest at September 30, 2017	2,701,922	$ 6.87	7.60	$ 731,233

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 statement of operations as follows:

	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Research and development	$ 386,636	$ 783,603	$ 1,172,655	$ 2,063,764
Selling, general and administrative	618,145	1,076,985	2,094,224	3,303,306
Total	$ 1,004,781	$ 1,860,588	$ 3,266,879	$ 5,367,070

As of September 30, 2017, there was approximately $5,801,434 of total unrecognized compensation cost related to unvested equity awards. Total unrecognized compensation cost will be adjusted for the re-measurement of non-employee awards as well as future changes in employee and non-employee forfeitures, if any. The Company expects to recognize that cost over a remaining weighted-average period of 2.30 years.

Employee stock purchase plan

In 2015, the Company's board of directors adopted, and the Company's stockholders approved, the 2015 Employee Stock Purchase Plan (the "ESPP"). As of September 30, 2017, no shares of common stock have been purchased under the ESPP.

9. 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 or nine months ended September 30, 2017 or 2016.

10. 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:

	September 30, 2017	September 30, 2016
Options to purchase common stock	2,701,922	2,320,247
Unvested restricted common stock	430,439	1,452,243
Total	3,132,361	3,772,490

11. 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 to treat muscle cramps 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, organize 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. The accounting policies of the segments are the same as those described herein as well as those described in Note 2 to the audited consolidated financial statements in the 2016 Form 10-K. 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 September 30, 2017 and 2016 are as follows:

Three Months Ended September 30, 2017	Consumer Operations	Drug Development	Corporate	Consolidated
Total revenue	$ 413,601	—	—	$ 413,601
Interest income, net	$ —	—	77,339	$ 77,339
Loss from operations	$ 2,323,919	4,683,533	2,402,000	$ 9,409,452

Three Months Ended September 30, 2016	Consumer Operations	Drug Development	Corporate	Consolidated
Total revenue	$ 599,074	—	—	$ 599,074
Interest income, net	$ —	—	97,726	$ 97,726
Loss from operations	$ 2,690,601	5,550,853	2,493,766	$ 10,735,220

Information for the Company's reportable segments for the nine months ended September 30, 2017 and 2016 are as follows:

Nine Months Ended September 30, 2017	Consumer Operations	Drug Development	Corporate	Consolidated
Total revenue	$ 991,671	—	—	$ 991,671
Interest income, net	$ —	—	227,535	$ 227,535
Loss from operations	$ 7,072,225	12,472,149	7,088,292	$ 26,632,666

Nine Months Ended September 30, 2016	Consumer Operations	Drug Development	Corporate	Consolidated
Total revenue	$ 711,759	—	—	$ 711,759
Interest income, net	$ —	—	308,877	$ 308,877
Loss from operations	$ 8,461,803	15,517,670	7,922,492	$ 31,901,965

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, 2016. 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, 2016, 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 (MD&A) is provided in addition to the accompanying 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 and nine months ended September 30, 2017 to the three and nine months ended September 30, 2016.

Liquidity and Capital Resources - An analysis of changes in our 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 are a biotechnology company that is developing innovative and proprietary treatments for muscle cramps and spasticity associated with severe neurological conditions and exercise-associated muscle cramps. In August 2017, we initiated a Phase 2 clinical trial in the United States of our lead drug product candidate, FLX-787, in patients with motor neuron disease, or MND, primarily with amyotrophic lateral sclerosis, or ALS, who suffer from cramps. We also initiated an additional Phase 2 clinical trial in October 2017 in patients with Charcot-Marie-Tooth disease, or CMT, who suffer from cramps. FLX-787 is currently in an exploratory Phase 2 spasticity study in Australia in patients with multiple sclerosis, or MS. In 2016, we launched our consumer product, HOTSHOT®, to prevent and treat exercise-associated muscle cramps, or EAMCs.

FLX-787, HOTSHOT and our other product candidates are based on the potential mechanism of action we describe as chemical neurostimulation, which is the process by which a chemical signal, acting topically, induces a neuronal sensory signal that produces a beneficial effect. Our product candidates activate certain receptors in primary sensory neurons, which then act via neuronal circuits to reduce hyperexcitability, which can result in the repetitive firing of alpha-motor neurons in the spinal cord, thereby preventing or reducing the frequency and intensity of muscle cramps and spasms.

HOTSHOT is our consumer beverage that prevents and treats EAMCs. We market HOTSHOT to endurance athletes, who drink it before, during and after exercise to prevent and treat muscle cramps. The majority of HOTSHOT sales are generated through our branded website and third-party websites. We also engage in sales and marketing efforts in a limited number of geographic areas with strong endurance sports markets.

We operate as the following 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 to treat muscle cramps 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. See Note 11 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 at least the next several years. Our net loss was $9.3 million and $26.4 million for the three and nine months ended September 30, 2017, respectively, and $10.6 million and $31.6 million for the three and nine months ended September 30, 2016, respectively. Our accumulated deficit was $103.1 million as of September 30, 2017. To date, we have financed our operations with net proceeds from the private placement of our preferred stock and our initial public offering. We expect to continue incurring significant research and development expenses related to the development of our drug product candidates and significant selling, general and administrative expenses as we continue to commercialize HOTSHOT. As a result, we will need additional capital to fund our future operations.

Recent Developments

Management and Board of Directors Update

In June 2017, we announced that William McVicar, Ph.D., our recently appointed President of Research and Development, had been appointed our interim President and Chief Executive Officer and in July 2017, we announced that Dr. McVicar had been appointed as our permanent President and Chief Executive Officer. Dr. McVicar replaced Christoph Westphal, M.D., Ph.D., who is a director on our Board of Directors. Prior to joining the Company, Dr. McVicar served in various leadership roles at Inotek Pharmaceuticals Corporation, most recently as its Executive Vice President and Chief Scientific Officer.

In October 2017, we announced that Roger Tung, Ph.D. had been added to our Board of Directors. Dr. Tung is the scientific co-founder of Concert Pharmaceuticals, where he serves as President and Chief Executive Officer. Prior to Concert, Dr. Tung was a founding scientist at Vertex, a pharmaceutical company.

Regulatory Update

In July 2017, we announced that the U.S. Food and Drug Administration, or FDA, granted Fast Track designation for the development of FLX-787 to treat severe muscle cramps in patients with ALS. Fast Track designation allows for a more frequent dialogue throughout the drug development and review process with the Neurology Division at the FDA on our drug development plan, data requirements and clinical trial design.

ALS Clinical Trials Update

In August 2017, we announced the initiation of a Phase 2 clinical trial in the United States, referred to as the COMMEND trial. The COMMEND trial is designed to evaluate FLX-787 in patients with MND, focused on ALS, who suffer from cramps. This randomized, controlled, double-blinded, parallel design trial will include a run-in period to establish a baseline in cramp frequency. Patients will then be randomized to 30 mg of FLX-787 administered three times a day, or to a control, for 28 days. Patients will be evaluated for changes in cramp frequency as the primary endpoint, with a number of secondary endpoints. We expect to report topline results from this clinical trial in the third quarter of 2018.

Due to the challenge of enrolling ALS patients in Australia, and a greater priority placed on the completion of the COMMEND trial, in July 2017 we announced that we had stopped our ongoing ALS exploratory study in Australia after 12 patients had been randomized.

In November 2017, we announced topline data from the ALS study in Australia. The study was a randomized, blinded, placebo-controlled Phase 2 clinical trial that originally planned to enroll up to 60 subjects with ALS or primary lateral sclerosis, or PLS, with frequent muscle cramps in Australia. The trial included a 14-day run-in period

with no treatment to establish baseline characteristics, followed by treatment periods during which patients received FLX-787 or placebo in the first 14-day treatment period before “crossing-over” to the other treatment for an additional 14-day treatment period. Patients were given 19 mg of FLX-787, formulated as an orally disintegrating tablet, ODT, or placebo control, two or three times daily. The exploratory study was designed to evaluate a number of endpoints relating to cramping frequency, cramp-associated pain, spasticity, stiffness, global impression of change by the patient and the clinician, quality of life, sleep and safety.

In the eight patients who completed the trial per protocol, FLX-787 demonstrated a statistically significant ($p<0.05$) percentage reduction from baseline in both cramp-associated pain intensity and stiffness, relative to placebo control, based on daily patient assessments by Numerical Rating Scale (NRS). Strong and consistent trends were demonstrated on multiple endpoints, including: percentage reduction in the number of cramps from baseline ($p=0.08$), increase in cramp free days from baseline ($p=0.09$), and improvements on both the Patient (PGIC; $p=0.06$) and Clinician (CGIC; $p=0.06$) Global Impression of Change. FLX-787 was generally well tolerated.

In the patients completing both cross-over periods per protocol:

- FLX-787 showed a median 31% reduction in cramps from baseline versus 0.1% reduction for patients while on placebo control;
- Patients had a median 4.4 cramp free days versus 0 for placebo control;
- Patients evaluated themselves as improved with FLX-787 treatment 50% of the time versus 12.5% with placebo control (PGIC); and
- Clinicians blinded to treatments evaluated 50% of patients as improved with FLX-787 versus 0% for placebo control (CGIC).

In a post-hoc analysis, we analyzed the Period 1 and Period 2 results of all patients randomized in the trial and believe the cross-over results are not driven by a cross-over bias or unblinding effect.

Clinically-assessed baseline spasticity levels as measured by either the Modified Ashworth or Tardieu scales were minimal across patients, and were not consistent with the observed patient-reported spasticity treatment differences.

We believe the data from our Australian study provides the first clinical evidence that FLX-787 has an effect in patients with underlying neurological disease and demonstrates the utility of chemical neurostimulation in treating symptoms arising from motor neuron hyperexcitability.

Additional Clinical Development Update

In October 2017, we announced the initiation of a Phase 2 clinical trial in patients that suffer from cramps associated with CMT, referred to as the COMMIT trial. The COMMIT trial is designed to evaluate FLX-787 in patients with CMT who suffer from cramps. This randomized, controlled, double-blinded, parallel design trial in the United States will include a run-in period to establish a baseline in cramp frequency. Patients will then be randomized to 30 mg of FLX-787 administered three times a day or to a control, for 28 days. Patients will be evaluated for changes in cramp frequency as the primary endpoint, with a number of secondary endpoints. We expect to report topline results from this clinical trial in the third quarter of 2018.

In November 2017, we announced that we were expanding the development of FLX-787 to additional indications, such as dysphagia, or difficulty swallowing, in patients with severe neurological disorders, as well as cramping in renal dialysis. We plan to begin clinical development in each indication during 2018.

Components of Operating Results

Revenue

Revenue is comprised of net product revenue and other revenue. Net product revenue includes sales of HOTSHOT finished goods to e-commerce customers, specialty retailers and sports teams, including professional and collegiate teams. Other revenue consists of payments made by customers for expedited shipping and handling. Revenue is recognized when persuasive evidence of an arrangement exists, delivery of the product has occurred, the sales price is fixed or determinable and collectibility is reasonably assured. For sales through September 30, 2016, we issued refunds to e-commerce customers, upon request, within 21 days of shipment. When we began selling HOTSHOT on a third-party e-commerce website in October 2016, the refund period and related deferral period

increased, as we began offering refunds to e-commerce customers, upon request, within 30 days of delivery, for purchases subsequent to September 30, 2016. As we currently do not have adequate history to accurately estimate refunds, all e-commerce sales, and their related costs, are deferred and revenue is recognized once the refund period lapses. Specialty retailers and sports teams are not offered a right of return or refund and revenue is recognized at the time products are delivered to these customers. Discounts provided to customers are accounted for as a reduction of net 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 6 or 12 bottles and are offered a first-time purchase discount for a 6 pack. We expect that a significant portion of our total revenue will continue to be generated through our branded website. 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 own e-commerce sales as opposed to third-party website, sports teams and specialty retailer sales. HOTSHOT is generally sold to specialty retailers and sports teams in multi-pack cases.

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 would have a material adverse impact on our operations.

In the future, we may generate revenue from a combination of consumer product sales, drug product sales, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements, or a combination of these sources. To the extent any of our drug products are successfully commercialized, we expect that any revenue we generate will fluctuate from quarter to quarter as a result of the amount and timing of payments that we receive from the sale of our drug products, the timing and amount of license fees, milestone and other payments. If we fail to complete the development of our drug product candidates in a timely manner, obtain regulatory approval for them, or fail to successfully commercialize these drug products, our results of operations and financial position would be materially adversely affected.

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 also 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. In the future, if we are not successful in generating sufficient levels of revenue from HOTSHOT or if our other estimates prove to be inaccurate, 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 to date include 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. Research and development costs include salaries and other compensation-related costs, such as stock-based compensation for research and development employees, 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 utilize 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 are 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 expect to continue incurring

significant research and development expenses related to the development of our drug product candidates. It is difficult to determine, with certainty, the duration and completion costs of our current or future pre-clinical programs and clinical trials of our drug product candidates.

In addition, the probability of success for each drug product candidate will depend on numerous factors, including competition, product safety and efficacy, patent protection, manufacturing capability and commercial viability. We will determine which programs to pursue and how much to fund each program in response to the scientific and clinical success of our drug product candidates, as well as an assessment of each product candidate's commercial potential.

Research and development expenses also include costs incurred related to our Consumer Operations segment for HOTSHOT, including athlete-based efficacy studies, product formulation work, stability studies and other efforts.

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, finance and accounting, legal, corporate communications and general administration roles. Other significant costs include professional service fees including legal fees relating to patent and corporate matters, accounting fees, insurance costs, costs for consultants who we utilize to supplement our personnel, travel costs 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. Prior to the launch of HOTSHOT, these costs included personnel costs, brand development costs, market research costs, product design costs, pre-launch activity costs and other external costs. Since the launch of HOTSHOT, we continue to incur costs related to personnel and market research, and are also incurring costs related to our marketing, sales and promotional activities, including print and digital media campaigns, public relations activities, field marketing efforts, other sales and promotional activities and costs related to the distribution of HOTSHOT. These distribution costs include shipping and handling costs incurred once our product is in salable condition.

Our selling, general and administrative expenses may increase as we support the efforts of our Consumer Operations and Drug Development segments as well as the needs of our corporate functions.

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 September 30, 2017 Compared to the Three Months Ended September 30, 2016

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 September 30, 2017 compared to the three months ended September 30, 2016.

	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Change $	Change %
Net product revenue	$ 407,241	$ 586,134	$ (178,893)	(31)%
Other revenue	6,360	12,940	(6,580)	(51)%
Total revenue	413,601	599,074	(185,473)	(31)%
Costs and expenses:				
Cost of product revenue	148,756	221,090	(72,334)	(33)%
Research and development	4,739,360	5,665,357	(925,997)	(16)%
Selling, general and administrative	4,934,937	5,447,847	(512,910)	(9)%
Total costs and expenses	9,823,053	11,334,294	(1,511,241)	(13)%
Loss from operations	(9,409,452)	(10,735,220)	1,325,768	(12)%
Interest income, net	77,339	97,726	(20,387)	(21)%
Net loss	$ (9,332,113)	$ (10,637,494)	$ 1,305,381	(12)%

Total Revenue

Our Consumer Operations segment generated all of our revenue during the three months ended September 30, 2017, totaling $0.4 million as compared to $0.6 million for the three months ended September 30, 2016, through sales of HOTSHOT and expedited shipping and handling purchases. Revenue was driven by our HOTSHOT marketing, sales and promotional efforts, including our print and digital media campaigns, public relation efforts, field marketing efforts, other sales and promotional activities. Revenue for the three months ended September 30, 2016 was also driven by our HOTSHOT launch related activities.

Sales via e-commerce represented approximately 80% of our total revenue for the three months ended September 30, 2017 compared to 93% for the three months ended September 30, 2016. E-commerce revenue decreased as a percentage of total revenue in the comparative periods due to an increase in specialty retailer and sports team revenue in 2017.

During the three months ended September 30, 2017, we sold approximately 87,000 bottles of HOTSHOT at an average total revenue per bottle of $4.75, compared to 123,000 bottles at an average total revenue per bottle of $4.87 during the three months ended September 30, 2016. The decrease in average total revenue per bottle is due to various price promotions that were offered to customers during the third quarter of 2017 to attract new and repeat customers. The decrease in volume of bottles sold in the comparative periods was due to launch related media coverage received in 2016 that drove a significant amount of revenue in the three months ended September 30, 2016.

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 $0.1 million for the three months ended September 30, 2017 and $0.2 million for the three months ended September 30, 2016, and included the cost of HOTSHOT sold, royalty expense, inventory write-offs, and depreciation expense related to manufacturing equipment purchased to support production which totaled approximately $35,000 for each quarter. Write-offs for the three months ended September 30, 2017 totaled approximately $14,700 and relate to finished goods with a 12 month product shelf life not expected to be sold due to expiration during the fourth quarter of 2017. The inventory produced during the second quarter of 2017 has a 30 month product shelf life. Write-offs for the three months ended September 30, 2016 totaled approximately $32,700, related to production fees for finished goods from the first production run of HOTSHOT that were not expected to be sold based upon projected sales, a 12 month product shelf life, the number of units produced and production level requirements.

Research and Development Expenses

Our Drug Development segment incurred the majority of our research and development expenses, which were $4.7 million for the three months ended September 30, 2017 compared to $5.7 million for the three months ended September 30, 2016. The 16% decrease of $0.9 million was primarily related to:

- $0.5 million decrease in the level of clinical activities compared to 2016, related primarily to prior year studies of our extract formulation, studies to identify our drug product candidate, IND-supporting pre-clinical activities and decreased manufacture of drug substance, partially offset by increases related to startup, formulation and production costs for our FLX-787 Phase 2 clinical trials in the United States; and

- $0.4 million decrease in stock-based compensation expense, related primarily to the revaluation of non-employee awards and option grants at lower valuations than the prior year due to decreased stock price.

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 costs were $4.9 million for the three months ended September 30, 2017 compared to $5.4 million for the three months ended September 30, 2016. The 9% decrease of $0.5 million was primarily related to:

- $0.5 million decrease in stock-based compensation expense, related primarily to the revaluation of non-employee awards and option grants at lower valuations than the prior year due to decreased stock price, as well as a stock option award modification in the prior year;

- $0.3 million decrease related to salaries and benefits as Consumer Operations and corporate headcount decreased from the prior year;

- $0.2 million of increased costs within our Consumer Operations segment related to event sponsorships and sampling of HOTSHOT, offset by a decrease in media spend related to launch activities in the prior year; and

- $0.1 million in increased corporate professional costs, mainly related to legal costs for clinical site contracts for our FLX-787 Phase 2 trials in the United States.

Loss from Operations

Our consolidated loss from operations for the three months ended September 30, 2017 totaled $9.4 million. Of this total, $2.3 million of the operating loss was incurred by our Consumer Operations segment, $4.7 million was incurred by our Drug Development segment and the remaining $2.4 million related to corporate and unallocated costs. The operating loss incurred by the Consumer Operations segment was primarily driven by marketing, sales and promotional costs related to HOTSHOT, and personnel-related expenses, including stock-based compensation. These costs were slightly offset by the total revenue generated from HOTSHOT sales in the third quarter of 2017. The operating loss incurred by the Drug Development segment relates to costs incurred for FLX-787 formulation and production and clinical study costs, other clinical study activities and personnel-related expenses, including stock-based compensation.

Interest Income, net

Interest income, net, decreased by $20,387 in the three months ended September 30, 2017 compared to the three months ended September 30, 2016 as we had by lower available cash to invest.

Nine Months Ended September 30, 2017 Compared to the Nine Months Ended September 30, 2016

The following table sets forth the condensed consolidated results of operations, including information related to our Consumer Operations and Drug Development segments, for the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016.

	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016	Change $	Change %
Net product revenue	$ 978,221	$ 698,819	$ 279,402	40 %
Other revenue	13,450	12,940	510	4 %
Total revenue	991,671	711,759	279,912	39 %
Costs and expenses:				
Cost of product revenue	373,187	529,041	(155,854)	(29)%
Research and development	12,730,554	16,147,357	(3,416,803)	(21)%
Selling, general and administrative	14,520,596	15,937,326	(1,416,730)	(9)%
Total costs and expenses	27,624,337	32,613,724	(4,989,387)	(15)%
Loss from operations	(26,632,666)	(31,901,965)	5,269,299	(17)%
Interest income, net	227,535	308,877	(81,342)	(26)%
Net loss	$ (26,405,131)	$ (31,593,088)	$ 5,187,957	(16)%

Total Revenue

Our Consumer Operations segment generated all of our revenue during the nine months ended September 30, 2017, totaling $1.0 million, as compared to $0.7 million for the nine months ended September 30, 2016 through sales of HOTSHOT and expedited shipping and handling purchases. HOTSHOT launched in the second quarter of 2016. Revenue was driven by our HOTSHOT marketing, sales and promotional efforts, including our print and digital media campaign, public relation efforts, field marketing efforts and other sales and promotional activities.

Sales via e-commerce represented approximately 82% of our total revenue for the nine months ended September 30, 2017 compared to 92% for the nine months ended September 30, 2016. E-commerce revenue decreased as a percentage of total revenue in the comparative periods due to an increase in specialty retailer and sports team revenue in 2017.

During the nine months ended September 30, 2017, we sold approximately 222,000 bottles of HOTSHOT at an average total revenue per bottle of $4.47, compared to 147,000 bottles at an average total revenue per bottle of $4.84 during the nine months ended September 30, 2016. The decrease in average total revenue per bottle is due to various price promotions that were offered to customers during 2017 to attract new and repeat customers. The increase in the number of bottles sold was a result of HOTSHOT being on the market for all of 2017 to date, while available in 2016 from its June launch date.

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 $0.4 million for the nine months ended September 30, 2017 compared to $0.5 million for the nine months ended September 30, 2016. Cost of product revenue during the nine months ended September 30, 2017 includes the cost of HOTSHOT sold, royalty expense, inventory write-offs of approximately $34,200 related to certain raw materials that are not expected to be used in future production runs and expiring finished goods, and depreciation expense of approximately $0.1 million related to manufacturing equipment used to support production. Cost of product revenue during the nine months ended September 30, 2016 included the cost of HOTSHOT sold, royalty expense, inventory write-offs of $0.3 million related to HOTSHOT finished goods that were not expected to be sold and depreciation expense of approximately $80,000.

Research and Development Expenses

Our Drug Development segment incurred the majority of our research and development expenses, which were $12.7 million for the nine months ended September 30, 2017 compared to $16.1 million for the nine months ended September 30, 2016. The 21% decrease of $3.4 million was primarily related to:

- $2.2 million decrease in clinical activities and related work, primarily related to studies completed in the prior year or ramping down in the current year, such as the submission of our IND, identification

of our drug product candidate and development of our drug substance, offset by startup, formulation and production costs for our FLX-787 Phase 2 clinical trials and other related studies in the United States, which commenced in 2017;

- $0.9 million decrease in stock-based compensation expense, related primarily to the revaluation of non-employee awards and option grants at lower valuations than the prior year due to decreased stock price;
- $0.3 million decrease related to salaries and benefits as research and development personnel changed from the prior year;
- $0.2 million decrease related to our Consumer Operations segment, related to formulation of our HOTSHOT product in prior year;
- $0.1 million increase in consulting related expenses to supplement our Drug Development personnel; and
- $0.1 million increase in rent expense due to entering into a new lease agreement for our current corporate headquarters.

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 $14.5 million for the nine months ended September 30, 2017 compared to $15.9 million for the nine months ended September 30, 2016. The 9% decrease of $1.4 million was primarily related to:

- $1.2 million decrease in stock-based compensation expense, related primarily to the revaluation of non-employee awards and option grants at lower valuations than the prior year due to decreased stock price, as well as a stock option award modification in the prior year;
- $0.7 million decrease related to salaries and benefits, as Consumer operations and corporate headcount decreased from the prior year;
- $0.4 million decrease in external consulting costs within our Consumer Operations segment due to decreased use of consultants;
- $0.1 million decrease in HOTSHOT sampling costs;
- $0.5 million of increased costs within our Consumer Operations segment for HOTSHOT print and digital media campaigns, as well as our branded website;
- $0.3 million increase in consulting expenses to supplement our corporate personnel;
- $0.1 million increase in rent expense due to the termination of our lease agreement at our office in New York, NY, as well as increase in rent expense due to entering into a new lease agreement for our current corporate headquarters; and
- $0.1 million increase related to nine months of distribution costs for HOTSHOT sales in 2017, as the product launched during the second quarter of 2016.

Loss from Operations

Our consolidated loss from operations for the nine months ended September 30, 2017 totaled $26.6 million. Of this total, $7.1 million of the operating loss was incurred by our Consumer Operations segment, $12.5 million was incurred by our Drug Development segment and the remaining $7.1 million related to corporate and unallocated costs. The operating loss incurred by the Consumer Operations segment was driven by sales, marketing, promotional and distribution costs related to HOTSHOT, and personnel-related expenses, including stock-based compensation. These costs were slightly offset by the total revenue generated from HOTSHOT sales during the nine months ended September 30, 2017. The operating loss incurred by the Drug Development segment relates to costs incurred for FLX-787 formulation, production and clinical study costs, other clinical study activities and personnel-related expenses, including stock-based compensation, as well as consulting costs.

Interest Income, net

Interest income, net, decreased by 81,342 in the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016 as we had lower available cash to invest.

Liquidity and Capital Resources

Overview

Since inception, we have incurred an operating loss and we anticipate that we will continue to incur operating losses for at least the next several years. To date, we have financed our operations through private placements of equity securities and our IPO, which we completed in February 2015, and have generated limited revenue from sales of HOTSHOT. We expect to continue incurring significant research and development expenses related to the development of our drug product candidates and significant selling, general and administrative expenses as we continue to commercialize HOTSHOT. As a result, we will need additional capital to fund our operations, which we may raise through a combination of equity offerings, debt financings, other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements.

Sources of Liquidity

At September 30, 2017, we had $35.6 million of working capital and our cash, cash equivalents and marketable securities totaled $38.9 million, which were held in bank deposit accounts, money market funds, U.S. government agency securities and commercial paper. Our cash, cash equivalents and marketable securities balance decreased during the nine months ended September 30, 2017, due primarily to our net loss incurred.

Cash Flows

	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Net cash (used in) provided by:		
Operating activities	$ (22,093,488)	$ (25,753,337)
Investing activities	19,827,530	(13,125,863)
Financing activities	2,047	22,096
Net increase (decrease) in cash and cash equivalents	$ (2,263,911)	$ (38,857,104)

Operating Activities

Net cash used in operating activities for the nine months ended September 30, 2017 was $22.1 million, a decrease of $3.7 million compared to the same period in the prior year. The use of cash for the nine months ended September 30, 2017 was primarily related to our net loss for the period of $26.4 million, offset by non-cash charges for stock-based compensation expense of $3.3 million, depreciation expense of $0.3 million and a cash inflow of $0.8 million from changes in operating assets and liabilities.

The $0.8 million cash inflow from changes in operating assets and liabilities was driven primarily by inflows from increases in accrued expenses and other current liabilities, and deferred rent. The increases in accrued expenses and other current liabilities relate to the timing of payments, primarily related to clinical trial startup activities for our FLX-787 Phase 2 clinical trials in the United States. The increase in deferred rent is due to signing a direct lease for our corporate headquarters through 2019. These inflows were offset by outflows primarily from an increase in prepaid expenses and other current assets and restricted cash and a decrease in accounts payable. The increase in prepaid expenses and other current assets relates to the timing of payments for insurance policies. The increase in restricted cash relates to a letter of credit established for the direct lease of our corporate headquarters. The letter of credit for our previous sublease of the office space was not released until October 2017. The decrease in accounts payable related to the timing of payments at December 31, 2016 compared to September 30, 2017.

Net cash used in operating activities for the nine months ended September 30, 2016 totaled $25.8 million and was primarily related to our net loss for the period of $31.6 million, offset by total non-cash charges of $5.6 million, including stock-based compensation expense of $5.4 million, depreciation expense of $0.2 million and amortization and accretion on investments of $0.1 million.

Investing Activities

Net cash provided by (used in) investing activities for the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016, increased $33.0 million, primarily related to a $32.5 million increase in net purchases and sales of marketable securities. Property and equipment acquisitions decreased $0.4 million, which primarily related to prior year activity of manufacturing equipment purchased to produce HOTSHOT and development of our branded website for HOTSHOT.

Financing Activities

Net cash provided by financing activities for the nine months ended September 30, 2017 did not change significantly compared to the nine months ended September 30, 2016. Cash provided by financing activities during the nine months ended September 30, 2017 and 2016 totaled $2,047 and $22,096, respectively, and related to proceeds from exercises of common stock.

As of September 30, 2017, 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, other than leases.

Funding Requirements

We expect that we will require additional funding to support the commercialization of HOTSHOT and to develop and commercialize our drug product candidates. In addition, if we receive regulatory approval for any of our drug product candidates, and if we choose not to grant rights to commercialize our drug products to partners, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution activities. We also expect to incur additional costs to support our operations as well as the costs associated with operating as a public company.

Until we can generate a sufficient amount of revenue from our products, if ever, we expect to finance future cash needs through public or private equity or debt offerings. Additional capital may not be available on reasonable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our product candidates or sell some of our assets. 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 our common stock. If we incur 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.

Our primary uses of capital are, and we expect will continue to be, compensation and related expenses, clinical costs, third-party research and development costs, legal and other regulatory expenses, manufacturing, marketing, promotion and selling costs related to our consumer brand and products, external consulting costs and general administrative and overhead costs. Our future funding requirements will be heavily reliant upon the resources required to support our drug product candidates as well as our consumer brand and products.

Drug Product Candidates

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 our 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.

As our drug product candidate, FLX-787, is in the early stage of development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of FLX-787 and future development costs may increase.

Consumer Brand and Products

The development and growth of our consumer brand, HOTSHOT and future products is uncertain, including the timing and resources needed to support successful commercialization. Our future success depends, in part, on our ability to implement a growth strategy that establishes distribution and placement of our products, attracts consumers to HOTSHOT and future product offerings, and maintains brand loyalty for our consumer products.

Our future funding requirements will be impacted by our ability to successfully grow our consumer brand, HOTSHOT and any future products. In addition, delays or unexpected costs related to HOTSHOT and growth plans could significantly change the costs and the timing of such costs associated with our consumer operations.

Outlook

Based on our research and development plans, our consumer brand and HOTSHOT growth plans and our expectations of timing related to the progress of our clinical programs, we expect that our existing cash resources and marketable securities will enable us to fund our costs and expenses, working capital and capital expenditure requirements into early 2019. We have based this estimate on assumptions that may prove to be wrong, however, and we could use our capital resources sooner than we expect. Additionally, the process of testing drug product candidates in clinical trials is costly, as are the resources required to commercialize a consumer brand and products, and the timing of progress of these efforts is uncertain.

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, 2016, other than as noted below.

In January 2017, we signed a lease agreement for our corporate headquarters in Boston, MA. Our sublease for this office space terminated on August 31, 2017, following which time we leased the same location from September 1, 2017 until August 31, 2019. This lease resulted in an aggregate increase to future minimum lease payments of $933,186 through 2019.

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, 2016.

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 September 30, 2017, we had cash, cash equivalents and marketable securities of $38.9 million. We invest our cash in a variety of financial instruments, principally money market funds, U.S. government securities, investment-grade corporate notes and commercial paper. 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. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 100 basis point change in interest rates would not have a material effect on 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 September 30, 2017, 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 nine months ended September 30, 2017, 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

We are not currently a party to any material legal proceedings.

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 Item 1A. (Risk Factors) in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

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, 2016, except as follows:

Risks Related to Our Business Operations and Industry

Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.

Our future success depends on our ability to retain key executives and to attract, retain motivate qualified personnel. We are highly dependent on William McVicar, our President and Chief Executive Officer, and Thomas Wessel, our Chief Medical Officer. Although we have employment agreements with Drs. McVicar and Wessel, these agreements do not prevent them from terminating their employment with us at any time. We do not maintain “key person” insurance for any of our executives or other employees. The loss of the services of any of these persons could impede the achievement of our research, development and commercialization objectives.

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

Recent sales of unregistered 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, after deducting 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 or to any other persons.

There has been no material change in the use of proceeds from our initial public offering as described in our final prospectus filed with the SEC pursuant to Rule 424(b)(4) on January 28, 2015.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

EXHIBIT INDEX

Exhibit number		Description of Document
3.1	(1)	Amended and Restated Certificate of Incorporation of the Registrant.
3.2	(2)	Amended and Restated Bylaws of the Registrant.
4.1	(3)	Form of Common Stock Certificate of the Registrant.
4.2	(4)	Amended and Restated Investors' Rights Agreement, dated July 23, 2014, by and among the Company and certain of its stockholders.
10.1	(5)+	Amendment to Executive Employment Agreement, effective as of July 6, 2017, by and between the Registrant and William McVicar
10.2	+	Amended and Restated Executive Employment Agreement, effective as of August 1, 2017, by and between the Registrant and William McVicar
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 September 30, 2017, 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.

+ Indicates management contract or compensatory plan.

(1) 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.

(2) 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.

(3) 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.

(4) 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.

(5) Incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-36812), filed with the SEC on July 11, 2017.

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: November 6, 2017

AMENDED AND RESTATED EXECUTIVE EMPLOYMENT AGREEMENT

This AMENDED AND RESTATED EXECUTIVE EMPLOYMENT AGREEMENT (the "***Agreement***") between Flex Pharma, Inc. a Delaware corporation (the "***Company***"), and William McVicar, Ph.D. (the "***Executive***") is effective as of August 1, 2017 (the "***Effective Date***").

W I T N E S S E T H:

WHEREAS, the Company desires the Executive to provide services to the Company, and wishes to provide the Executive with certain compensation and benefits in return for such employment services;

WHEREAS, the Executive wishes to be employed by the Company and to provide services to the Company in return for certain compensation and benefits; and

WHEREAS, the Company and Executive have entered into that certain Executive Employment Agreement, dated April 5, 2017, which agreement was amended on July 6, 2017 (as amended, the "***Prior Agreement***") and the parties now wish to amend and restate the Prior Agreement as set forth herein.

NOW THEREFORE, in consideration of the foregoing, of the mutual promises contained herein and of other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. **EMPLOYMENT TERM**. The Company hereby offers to employ the Executive, and the Executive hereby accepts employment by the Company, upon the terms and conditions set forth in this Agreement, until the termination of the Executive's employment in accordance with Section 10 below, as applicable (the "***Employment Term***"). The Executive shall be employed at-will, meaning that either the Company or the Executive may terminate this Agreement and the Executive's employment at anytime, for any reason or no reason, with or without Cause, without liability to the other save for wages earned through the effective date of termination and severance compensation and benefits provided in Section 11, as applicable.

2. **POSITION & DUTIES**. During the Employment Term, the Executive shall serve as the Company's President and Chief Executive Officer. As President and Chief Executive Officer, the Executive shall have such duties, authorities and responsibilities commensurate with the duties, authorities and responsibilities of persons in similar capacities in similarly sized companies and such other duties and responsibilities as the Company's Board of Directors shall designate that are consistent with the Executive's position as President and Chief Executive Officer. During the Employment Term, the Executive shall use his best efforts to perform faithfully and efficiently the duties and responsibilities assigned to the Executive hereunder and, subject to Executive's time spent evaluating other business opportunities in accordance with Section 9, devote all of the Executive's business time (excluding periods of PTO and other approved leaves of absence) to the performance of the Executive's duties with the Company.

3. **LOCATION**. Unless the parties otherwise agree in writing, at all times during the Employment Term, the Executive's principal place of business for performance of the services under this Agreement shall be at the Company's Boston offices, *provided, however*, that the Company may from time to time require the Executive to travel temporarily to other locations (domestic and international) in connection with the Company's business.

4. **BASE SALARY**. The Company agrees to pay the Executive a base salary (the "***Base Salary***") at an annual rate of $475,000, payable bi-monthly in accordance with the regular payroll practices of the

Company. The Executive's Base Salary shall be subject to review and adjustment from time to time by the Board of Directors (the "***Board***") (or a committee thereof) in its sole discretion. The base salary as determined herein from time to time shall constitute "Base Salary" for purposes of this Agreement.

5. **ANNUAL BONUS**. For the 2017 calendar year and each full calendar year during the Employment Term thereafter, the Executive will be eligible to earn an annual performance bonus targeted at fifty percent (50%) of the Base Salary (the "***Annual Bonus***"). The Annual Bonus will be based upon the Board's assessment of the Executive's performance and the Company's attainment of targeted goals as set by the Board in its sole discretion. The Annual Bonus, if any, will be subject to applicable payroll deductions and withholdings. Following the close of each calendar year, the Board will determine whether the Executive has earned the Annual Bonus, and the amount of any Annual Bonus, based on the set criteria. No amount of the Annual Bonus is guaranteed, and the Executive must be an employee in good standing on the Annual Bonus payment date to be eligible to receive an Annual Bonus; no partial or prorated bonuses will be provided if Executive's employment has been terminated as of such payment date. The Annual Bonus, if earned, will be paid no later than March 15 of the calendar year immediately following the applicable calendar year for which the Annual Bonus is being measured. The Executive's eligibility for an Annual Bonus is subject to change in the discretion of the Board (or any authorized committee thereof).

6. **EQUITY**. The Executive was previously granted one or more stock options to purchase an aggregate of 250,000 shares of the Company's Common Stock (the "***Options***") under the Company's 2015 Equity Incentive Plan (the "***Plan***"). The Options remain subject to the terms and conditions of the Plan and the Executive's Stock Option Agreement(s).

7. **EMPLOYEE BENEFITS**.

(a) BENEFIT PLANS. The Executive shall, in accordance with Company policy and the terms of the applicable Company benefit plan documents, be eligible to participate in any benefit plan or arrangement, including health, life and disability insurance, retirement plans and the like, that may be in effect from time to time and made available to the Company's senior management. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

(b) PAID TIME OFF. The Executive shall be eligible to accrue paid time off ("***PTO***") at the rate of 23 days per year in accordance with the Company's PTO policy. PTO is to be taken at such intervals as shall be appropriate and consistent with the proper performance of the Executive's duties hereunder. The Executive will also be entitled to nine (9) paid holidays to be taken in accordance with the Company's holiday schedule and policy.

(c) GENERAL EXPENSE REIMBURSEMENTS. The Company will reimburse the Executive for all reasonable business expenses that the Executive incurs in performing the services hereunder pursuant to the Company's usual expense reimbursement policies and practices, following submission by the Executive of reasonable documentation thereof. All reimbursements provided under this Agreement shall be made in accordance with the requirements of Section 409A (as defined below) to the extent that such reimbursements are subject to Section 409A, including, as applicable, the requirements that (i) any reimbursement is for expenses incurred during the Employment Term, (ii) the amount of expenses eligible for reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (iii) the reimbursement of an eligible expense shall be made on or before the last day of the

calendar year following the calendar year in which the expense was incurred, and (iv) the right to reimbursement is not subject to liquidation or exchange for any other benefit.

8. **CONFIDENTIALITY AND POST-EMPLOYMENT OBLIGATIONS**. As a condition of employment, the Executive agrees to continue to abide by the Employee Confidentiality, Non-Competition and Proprietary Information Agreement ("***Confidentiality Agreement***"), which the Executive executed and which may be amended by the parties from time to time without regard to this Agreement. The Confidentiality Agreement contains provisions that are intended by the parties to survive and do survive termination of this Agreement.

9. **NO ADVERSE INTERESTS.** The Executive agrees not to acquire, assume or participate in, directly or indirectly, any position, investment or interest known by him to be adverse or antagonistic to the Company, its business or prospects, financial or otherwise during the Employment Term without the written consent of the Board. Except with the prior written consent of the Board, during the Employment Term the Executive will not undertake or engage in any other employment, occupation or business enterprise. Notwithstanding the foregoing, the Company acknowledges that during the Employment Term, the Executive may (i) serve as an officer or member of the board of directors for up to two (2) non-profit (501(c)(3)) philanthropic organizations (unless a greater number is approved by the Company's Chair or lead independent director), (ii) serve as a member of the board of directors for up to one (1) "for-profit" companies (unless a greater number is approved by the Company's Chair or lead independent director), and (iii) evaluate and pursue for his own and exclusive personal benefit other business opportunities, including receiving compensation incidental to any such evaluation. The Executive agrees that (i) his evaluation of such other business opportunities will not interfere with his duties and responsibilities to the Company, (ii) he will notify the Company (the Chair, lead independent director or either of their designee) of any boards of directors on which he serves, (iii) he will notify the Company (the Chair, lead independent director or either of their designee) of any business opportunities to which he is devoting significant time or from which he has or will receive compensation, and (iv) the Executive's service on any boards of directors or evaluation of other business opportunities shall not relieve the Executive of any obligations to abide by the terms of the Confidentiality Agreement, including the noncompetition and confidentiality provisions therein.

10. **TERMINATION**. The Executive's employment and the Employment Term shall terminate on the first of the following to occur:

(a) DISABILITY. Upon the 30th day following the Executive's receipt of notice of the Company's termination due to Disability (as defined in this Section); *provided that*, the Executive has not returned to full-time performance of his duties within thirty (30) days after receipt of such notice. If the Company determines in good faith that the Executive's Disability has occurred during the term of this Agreement, it will give the Executive written notice of its intention to terminate his employment. For purposes of this Agreement, "***Disability***" shall occur when the Board determines that the Executive has become physically or mentally incapable of performing the essential functions of his job duties under this Agreement with or without reasonable accommodation, for ninety (90) consecutive days or one hundred twenty (120) nonconsecutive days in any twelve (12) month period. For purposes of this Section, at the Company's request, the Executive agrees to make himself available and to cooperate in a reasonable examination by an independent qualified physician selected by the Board.

(b) DEATH. Automatically on the date of death of the Executive.

(c) CAUSE. Immediately upon written notice by the Company to the Executive of a termination for Cause. For purposes of this Agreement, "***Cause***" shall mean, as determined by the Board in

good faith and using its reasonable judgment: (i) the Executive's willful failure to perform, or gross negligence in the performance of, his material duties and responsibilities to the Company or its affiliates which is not remedied within thirty (30) days of written notice thereof; (ii) material breach by the Executive of any provision of this Agreement, the Confidentiality Agreement or any other material, written agreement with the Company or any of its affiliates which is not remedied within thirty (30) days of written notice thereof; (iii) fraud, embezzlement or other dishonesty with respect to the Company or any of its affiliates, taken as a whole, which, in the case of such other dishonesty, causes or could reasonably be expected to cause material harm to the Company or any of its affiliates, taken as a whole; (iv) refusal to follow or implement a clear and reasonable directive of the Company which is not remedied within thirty (30) days of written notice thereof; or (v) any conduct by the Executive which constitutes a felony or of any other crime involving fraud, dishonesty or moral turpitude.

(d) WITHOUT CAUSE. Upon written notice by the Company to the Executive of an involuntary termination without Cause and other than due to death or Disability.

(e) WITH GOOD REASON. Upon Executive's notice following the end of the Cure Period (as defined in this Section). For purposes of this Agreement, "***Good Reason***" for the Executive to terminate his employment hereunder shall mean the occurrence of any of the following events without the Executive's consent: (i) a material reduction in the Executive's Base Salary (other than an across-the-board decrease in base salary applicable to all executive officers of the Company); (ii) a material reduction in the Executive's duties, authority or responsibilities relative to the Executive's duties, authority, and responsibilities in effect immediately prior to such reduction; provided, however, that the acquisition of the Company and subsequent conversion of the Company to a division or unit of the acquiring company will not by itself result in a diminution of Executive's position; or (iii) the relocation of the Executive's principal place of employment, without the Executive's consent, in a manner that lengthens his one-way commute distance by fifty (50) or more miles from his then-current principal place of employment immediately prior to such relocation; *provided, however,* that, any such termination by the Executive shall only be deemed for Good Reason pursuant to this definition if: (1) the Executive gives the Company written notice of his intent to terminate for Good Reason within thirty (30) days following the first occurrence of the condition(s) that he believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within thirty (30) days following receipt of the written notice (the "***Cure Period***"); and (3) the Executive voluntarily terminates his employment within thirty (30) days following the end of the Cure Period.

(f) WITHOUT GOOD REASON. Upon the expiration of the Transition Period (as defined in this Section) unless otherwise provided by the Company as provided herein. The Executive shall provide two (2) weeks' prior written notice (the "***Transition Period***") to the Company of the Executive's intended termination of employment without Good Reason ("***Voluntary Termination***"). During the Transition Period, the Executive shall assist and advise the Company in any transition of business, customers, prospects, projects and strategic planning, and the Company shall continue to pay the Executive's Base Salary and benefits through the end of the Transition Period. The Company may, in its sole discretion, upon five (5) days prior written notice to the Executive, make such termination of employment effective earlier than the expiration of the Transition Period, which shall not constitute a termination without Cause as described in Section 10(d).

Notwithstanding anything herein to the contrary, the transfer by the Company of Executive's employment to any subsidiary of the Company shall not be deemed a termination of the Executive's employment that would entitle the Executive to any of the payments or benefits set forth in Section 11.

11. **CONSEQUENCES OF TERMINATION**. Any termination payments made and benefits provided under this Agreement to the Executive shall be in lieu of any termination or severance payments or benefits for which the Executive may be eligible under any of the plans, policies or programs of the Company or its affiliates as may be in effect from time to time. Subject to satisfaction of each of the conditions set forth in Section 12, the following amounts and benefits shall be due to the Executive. Any Accrued Amounts (as defined in Section 11(a)) shall be payable on the next regularly scheduled Company payroll date following the date of termination or earlier if required by applicable law.

(a) DISABILITY. Upon employment termination due to Disability, the Company shall pay or provide the Executive: (i) any unpaid Base Salary through the date of termination and any accrued PTO; (ii) reimbursement for any unreimbursed expenses incurred through the date of termination; and (iii) all other payments and benefits to which the Executive may be entitled under the terms of any applicable compensation arrangement or benefit, equity or perquisite plan or program or grant or this Agreement, including but not limited to any applicable insurance benefits (collectively, "***Accrued Amounts***").

(b) DEATH. In the event the Employment Term ends on account of the Executive's death, the Executive's estate (or to the extent a beneficiary has been designated in accordance with a program, the beneficiary under such program) shall be entitled to any Accrued Amounts, including but not limited to proceeds from any Company sponsored life insurance programs.

(c) TERMINATION FOR CAUSE OR WITHOUT GOOD REASON. If the Executive's employment should be terminated (i) by the Company for Cause, or (ii) by the Executive without Good Reason, the Company shall pay to the Executive any Accrued Amounts only, and shall not be obligated to make any additional payments to the Executive.

(d) TERMINATION WITHOUT CAUSE OR FOR GOOD REASON. If the Executive's employment by the Company is terminated by the Company without Cause (and not due to Disability or death) or by the Executive for Good Reason, then the Company shall pay or provide the Executive with the Accrued Amounts and subject to compliance with Section 12, the Company shall:

i. provide continued payment of the Executive's Base Salary as in effect immediately preceding the last day of the Employment Term (ignoring any decrease in Base Salary that forms the basis for Good Reason), for a period of twelve (12) months following the termination date on the Company's regular payroll dates; *provided, however,* that any payments otherwise scheduled to be made prior to the effective date of the General Release (namely, the date it can no longer be revoked) shall accrue and be paid in the first payroll date that follows such effective date with subsequent payments occurring on each subsequent Company payroll date; and

ii. if the Executive timely elects continued coverage under COBRA for himself and his covered dependents under the Company's group health plans following such termination, then the Company shall pay that portion of the COBRA premiums that it was paying prior to the Executive's termination date in order to continue the Executive's and his covered dependents' health insurance coverage in effect for himself (and his covered dependents) on the termination date until the earliest of: (i) twelve (12) months following the termination date; (ii) the date when the Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (iii) the date the Executive ceases to be eligible for COBRA continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (i)-(iii), the "***COBRA Payment Period***"). Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA premiums on the Executive's behalf would result in a violation of applicable law (including but not limited

to the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying COBRA premiums pursuant to this Section, the Company shall pay the Executive on the last day of each remaining month of the COBRA Payment Period, a fully taxable cash payment equal to the COBRA premium for such month, subject to applicable tax withholding (such amount, the "***Special Severance Payment***"), such Special Severance Payment to be made without regard to the Executive's payment of COBRA premiums and without regard to the expiration of the COBRA period prior to the end of the COBRA Payment Period. Nothing in this Agreement shall deprive the Executive of his rights under COBRA or ERISA for benefits under plans and policies arising under his employment by the Company.

(e) TERMINATION WITHOUT CAUSE OR FOR GOOD REASON IN CONNECTION WITH A CHANGE IN CONTROL. If the Executive's employment by the Company is terminated by the Company without Cause (and not due to Disability or death) or by the Executive for Good Reason within thirty (30) days immediately prior to a Change in Control (as defined in the Plan), or within twelve (12) months immediately following a Change in Control, then the Company shall pay or provide the Executive with the Accrued Amounts and all of the benefits described in Section 11(d) above, subject to compliance with Section 12. In addition, the Company shall provide that all outstanding unvested equity awards granted to the Executive shall become fully vested and the Company shall pay the Executive the Annual Bonus for the performance year in which the Executive's termination occurs, payable as a lump sum payment on the General Release effective date (namely, the date it can no longer be revoked), subject to compliance with Section 12.

12. **CONDITIONS**. Any payments or benefits made or provided pursuant to Section 11 (other than Accrued Amounts) are subject to the Executive's:

(a) compliance with the Confidentiality Agreement;

(b) delivery to the Company of an executed waiver and general release of any and all known and unknown claims, and other provisions and covenants, in substantially the form attached hereto as Exhibit A (which shall be delivered to the Executive within five (5) business days following the termination date) (the "***General Release***") within 21 days of presentation thereof by the Company to the Executive (or a longer period of time if required by law), and permitting the General Release to become effective in accordance with its terms; and

(c) delivery to the Company of a resignation from all offices, directorships and fiduciary positions with the Company, its affiliates and employee benefit plans effective as of the termination date.

Notwithstanding the due date of any post-employment payments, any amounts due following a termination under this Agreement (other than Accrued Amounts) shall not be due until after the expiration of any revocation period applicable to the General Release without the Executive having revoked such General Release, and any such amounts shall be paid or commence being paid to the Executive within fifteen (15) days of the expiration of such revocation period without the occurrence of a revocation by the Executive (or such later date as may be required under Section 18 of this Agreement). Nevertheless (and regardless of whether the General Release has been executed by the Executive), upon any termination of the Executive's employment, the Executive shall be entitled to receive any Accrued Amounts, payable after the date of termination in accordance with the Company's applicable plan, program, policy or payroll procedures. Notwithstanding anything to the contrary in this Agreement, if any severance pay or benefits are deferred compensation under Section 409A (as defined below), and the period during which the Executive may sign

the General Release begins in one calendar year and the first payroll date following the period during which the Executive may sign the General Release occurs in the following calendar year, then the severance pay or benefit shall not be paid or the first payment shall not occur until the later calendar year.

13. **ASSIGNMENT**. This Agreement shall be binding upon and inure to the benefit of the Executive and the Executive's heirs, executors, personal representatives, assigns, administrators and legal representatives. Because of the unique and personal nature of the Executive's duties under this Agreement, neither this Agreement nor any rights or obligations under this Agreement shall be assignable by the Executive. This Agreement shall be binding upon and inure to the benefit of the Company and its successors, assigns and legal representatives. Any such successor or assign of the Company will be deemed substituted for the Company under the terms of this Agreement for all purposes. For this purpose, "successor" means any person, firm, corporation or other business entity which at any time, whether by purchase, merger or otherwise, directly or indirectly acquires all or substantially all of the assets or business of the Company.

14. **NOTICE**. For the purpose of this Agreement, notices and all other communications provided for in this Agreement shall be in writing and shall be deemed to have been duly given (a) on the date of delivery if delivered by hand, (b) on the date of transmission, if delivered by confirmed facsimile, (c) on the first business day following the date of deposit if delivered by guaranteed overnight delivery service, or (d) on the fourth business day following the date delivered or mailed by United States registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

If to the Company:

Flex Pharma, Inc.
Attn: General Counsel
800 Boylston Street, Floor 24
Boston, MA 02199
(617) 874-1821 (fax)

If to the Executive:

To the most recent address of the Executive set forth in the personnel records of the Company.

or to such other address as either party may have furnished to the other in writing in accordance herewith, except that notices of change of address shall be effective only upon receipt.

15. **SECTION HEADINGS; INCONSISTENCY**. The section headings used in this Agreement are included solely for convenience and shall not affect, or be used in connection with, the interpretation of this Agreement. If there is any inconsistency between this Agreement and any other agreement (including but not limited to any option, stock, long-term incentive or other equity award agreement), plan, program, policy or practice (collectively, "***Other Provision***") of the Company the terms of this Agreement shall control over such Other Provision.

16. **SEVERABILITY**. The provisions of this Agreement shall be deemed severable and the invalidity of unenforceability of any provision shall not affect the validity or enforceability of the other provisions hereof.

17. **COUNTERPARTS**. This Agreement may be executed in counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same instruments. One or more counterparts of this Agreement may be delivered by facsimile, with the intention that delivery by such means shall have the same effect as delivery of an original counterpart thereof.

18. **SECTION 409A**.

(a) Notwithstanding anything to the contrary herein, the following provisions apply to the extent severance benefits provided herein are subject to Section 409A of the Internal Revenue Code (the "***Code***") and the regulations and other guidance thereunder and any state law of similar effect (collectively "***Section 409A***"). Severance benefits shall not commence until the Executive has a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h), without regard to any alternative definition thereunder, a "separation from service"). Each installment of severance benefits is a separate "payment" for purposes of Treas. Reg. Section 1.409A-2(b)(2)(i), and the severance benefits are intended to satisfy the exemptions from application of Section 409A provided under Treasury Regulations Sections 1.409A-1(b)(4), 1.409A-1(b)(5) and 1.409A-1(b)(9). However, if such exemptions are not available and the Executive is, upon separation from service, a "specified employee" for purposes of Section 409A, then, solely to the extent necessary to avoid adverse personal tax consequences under Section 409A, the timing of the severance benefits payments shall be delayed until the earlier of (i) six (6) months and one day after the Executive's separation from service, or (ii) the Executive's death. The parties acknowledge that the exemptions from application of Section 409A to severance benefits are fact specific, and any later amendment of this Agreement to alter the timing, amount or conditions that will trigger payment of severance benefits may preclude the ability of severance benefits provided under this Agreement to qualify for an exemption.

(b) It is intended that this Agreement shall comply with the requirements of Section 409A, and any ambiguity contained herein shall be interpreted in such manner so as to avoid adverse personal tax consequences under Section 409A. Notwithstanding the foregoing, the Company shall in no event be obligated to indemnify the Executive for any taxes or interest that may be assessed by the Internal Revenue Service pursuant to Section 409A of the Code to payments made pursuant to this Agreement.

19. **REPRESENTATIONS**. The Executive represents and warrants to the Company that the Executive has the legal right to enter into this Agreement and to perform all of the obligations on the Executive's part to be performed hereunder in accordance with its terms and that the Executive is not a party to any agreement or understanding, written or oral, which could prevent the Executive from entering into this Agreement or performing all of the Executive's obligations hereunder. The Executive further represents and warrants that he has been advised to consult with an attorney and that he has been represented by the attorney of his choosing during the negotiation of this Agreement, that he has consulted with his attorney before executing this Agreement, that he has carefully read and fully understand all of the provisions of this Agreement and that he is voluntarily entering into this Agreement.

20. **WITHHOLDING**. The Company may withhold from any and all amounts payable under this Agreement such federal, state and local taxes as may be required to be withheld pursuant to any applicable law or regulation.

21. **SURVIVAL**. The respective obligations of, and benefits afforded to, the Company and the Executive which by their express terms or clear intent survive termination of the Executive's employment with the Company, including, without limitation, the provisions of Sections 8 and 11 through 27, inclusive of this Agreement, will survive termination of the Executive's employment with the Company, and will remain in full force and effect according to their terms.

22. **AGREEMENT OF THE PARTIES**. The language used in this Agreement will be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction will be applied against any party hereto. No agreements or representations, oral or otherwise, express or

implied, with respect to the subject matter hereof have been made by either party which are not expressly set forth in this Agreement. Neither the Executive nor the Company shall be entitled to any presumption in connection with any determination made hereunder in connection with any arbitration, judicial or administrative proceeding relating to or arising under this Agreement.

23. **INTEGRATION**. This Agreement, together with the Confidentiality Agreement and any documents or agreements relating to the Options, contains the complete, final and exclusive agreement of the parties relating to the terms and conditions of the Executive's employment and the termination of the Executive's employment, and supersedes all prior and contemporaneous oral and written employment agreements or arrangements between the parties. Upon the execution and delivery of this Agreement by the Company and Executive, the Prior Agreement automatically shall terminate and be of no further force and effect and shall be amended and restated in its entirety as set forth in this Agreement.

24. **AMENDMENT.** This Agreement cannot be amended or modified except by a written agreement signed by the Executive and a duly authorized officer of the Company.

25. **WAIVER.** No term, covenant or condition of this Agreement or any breach thereof shall be deemed waived, except with the written consent of the party against whom the wavier is claimed, and any waiver or any such term, covenant, condition or breach shall not be deemed to be a waiver of any preceding or succeeding breach of the same or any other term, covenant, condition or breach.

26. **CHOICE OF LAW.** This Agreement shall be construed and interpreted in accordance with the internal laws of the Commonwealth of Massachusetts without regard to its conflict of laws principles.

27. **DISPUTE RESOLUTION**. To ensure the rapid and economical resolution of disputes that may arise in connection with the Executive's employment with the Company, the Executive and the Company both agree that any and all disputes, claims, or causes of action, in law or equity, including but not limited to statutory claims, arising from or relating to the enforcement, breach, performance, or interpretation of this Agreement, the Executive's employment with the Company, or the termination of the Executive's employment from the Company, will be resolved pursuant to the Federal Arbitration Act, 9 U.S.C. §1-16, and to the fullest extent permitted by law, by final, binding and confidential arbitration conducted in Boston, Massachusetts by JAMS, Inc. ("***JAMS***") or its successors. **Both the Executive and the Company acknowledge that by agreeing to this arbitration procedure, each waives the right to resolve any such dispute through a trial by jury or judge or administrative proceeding.** Any such arbitration proceeding will be governed by JAMS' then applicable rules and procedures for employment disputes, which can be found at **http://www.jamsadr.com/rules-clauses/**, and which will be provided to the Executive upon request. In any such proceeding, the arbitrator shall: (i) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; and (ii) issue a written arbitration decision including the arbitrator's essential findings and conclusions and a statement of the award. The Executive and the Company each shall be entitled to all rights and remedies that either would be entitled to pursue in a court of law; *provided, however,* that in no event shall the arbitrator be empowered to hear or determine any class or collective claim of any type. Nothing in this Agreement is intended to prevent either the Company or the Executive from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration pursuant to applicable law. The Company shall pay all filing fees in excess of those which would be required if the dispute were decided in a court of law, and shall pay the arbitrator's fees and any other fees or costs unique to arbitration.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, effective as of the date first written above.

FLEX PHARMA, INC.

By: /s/ Stuart Randle
Name: Stuart Randle
Title: Director

Date: 8/1/17

WILLIAM McVICAR

/s/ William McVicar

Date: 8/1/17

Exhibit A

Form of General Release

GENERAL RELEASE

This General Release ("***Release"***) is provided by William McVicar (the ***"Employee"***) to Flex Pharma, Inc. (the ***"Company"***) pursuant to that certain Amended and Restated Executive Employment Agreement dated August 1, 2017 between the Employee and the Company (the "***Employment Agreement***"). Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the Employment Agreement.

This General Release is being provided by the Employee pursuant to Section 12(b) of the Employment Agreement in order to receive the payments or benefits provided pursuant to Section 11 of the Employment Agreement (other than the Accrued Amounts). In consideration of such benefits, Employee hereby agrees as follows:

1. Employee hereby releases, acquits and forever discharges the Company, its parents and subsidiaries, and their officers, directors, agents, servants, employees, stockholders, successors, assigns and affiliates, of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, which were known or through reasonable diligence should have been known, arising out of or in any way related to events, acts or conduct at any time prior to the date Employee executes this Release, including, but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with Employee's employment with the Company, including but not limited to, claims of intentional and negligent infliction of emotional distress, any and all tort claims for personal injury, claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law or cause of action including, but not limited to, any and all claims and causes of action that the Company, its parents and subsidiaries, and its and their respective officers, directors, agents, servants, employees, attorneys, shareholders, successors, assigns or affiliates:

- has violated its personnel policies, handbooks, contracts of employment, or covenants of good faith and fair dealing;

- has discriminated against him on the basis of age, race, color, sex (including sexual harassment), national origin, ancestry, disability, religion, sexual orientation, marital status, parental status, source of income, entitlement to benefits, any union activities or other protected category in violation of any local, state or federal law, constitution, ordinance, or regulation, including but not limited to: Title VII of the Civil Rights Act of 1964, as amended; 42 U.S.C. § 1981, as amended; the Equal Pay Act; the Americans With Disabilities Act; the Family and Medical Leave Act; the Massachusetts Fair Employment Practice Act; the Massachusetts Privacy Act; the Massachusetts Consumer Protection Act; the Massachusetts Right-to-Know Law; the Employee Retirement Income Security Act; Section 510; and the National Labor Relations Act; and/or

- has violated any statute, public policy or common law (including but not limited to claims for retaliatory discharge; negligent hiring, retention or supervision; defamation; intentional or negligent infliction of emotional distress and/or mental anguish; intentional interference with contract; negligence; detrimental reliance; loss of consortium to him or any member of his family and/or promissory estoppel).

Excluded from this Release are any claims which cannot be waived by law. Employee is waiving, however, his right to any monetary recovery should any governmental agency or entity, such as the Equal Employment Opportunity Commission or the U.S. Department of Labor, pursue any claims on his behalf. Employee also acknowledges that (i) the consideration given to him in exchange for the waiver and release in this Release is in addition to anything of value to which he was already entitled; (ii) he has been paid for all time worked, has received all the leave, leaves of absence and leave benefits and protections for which he is eligible, and has not

suffered any on-the-job injury for which he has not already filed a claim; (iii) he has been given sufficient time to consider this Release and to consult an attorney or advisor of his choosing; and (iv) he is knowingly and voluntarily executing this Release waiving and releasing any claims he may have as of the date he executes it.

ADEA Waiver and Release. Employee acknowledge that he is knowingly and voluntarily waiving and releasing any rights he may have under the Age Discrimination in Employment Act, as amended ("***ADEA***"). He also acknowledges that the consideration given for the waiver and release is in addition to anything of value to which he was already entitled. He further acknowledges that he has been advised by this writing, as required by the ADEA, that: (a) this waiver and release does not apply to any rights or claims that may arise after the execution date of this Release; (b) he has been advised that he has the right to consult with an attorney prior to executing this Release; (c) he has been given twenty-one (21) days to consider this Release and seven (7) days following the execution of this Release to revoke this Release; and (e) this Release will not be effective until the date upon which the revocation period has expired, which will be the eighth day after this Release is executed by the Employee, provided that the Company has also executed this Release by that date. *The parties acknowledge and agree that revocation by the Employee of the ADEA Waiver and Release is not effective to revoke your waiver or release of any other claims pursuant to this Release.*

2. Employee agrees that upon any breach of this Release, Employee will forfeit all amounts paid or owing to Employee under the Employment Agreement (other than the Accrued Amounts).

3. This Release will bind the heirs, personal representatives, successors and assigns of the Employee, and inure to the benefit of the Company and its successors and assigns. If any provision of this Release is determined to be invalid or unenforceable, in whole or in part, this determination will not affect any other provision of this Release and the provision in question will be modified by the court so as to be rendered enforceable. This Release will be deemed to have been entered into and will be construed and enforced in accordance with the laws of the Commonwealth of Massachusetts as applied to contracts made and to be performed entirely within Massachusetts**.**

In Witness Whereof, the Employee has duly authorized and caused this General Release to be executed as follows:

EMPLOYEE:

_____
WILLIAM MCVICAR

Date: _____

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)

November 6, 2017

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)

November 6, 2017

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 September 30, 2017 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.

November 6, 2017

President and Chief Executive Officer
(Principal Executive Officer)

/s/ John McCabe

John McCabe

November 6, 2017

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.