UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

May 4, 2016
Date of Report (Date of earliest event reported)

Flex Pharma, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**001-36812**	**46-5087339**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

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**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligations of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 2.02 Results of Operations and Financial Condition.

On May 4, 2016, Flex Pharma, Inc. issued a press release announcing its financial results for the quarter ended March 31, 2016. A copy of the press release is attached hereto as Exhibit 99.1 and incorporated herein by reference.

The information in this Item 2.02 and Exhibit 99.1 hereto is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or otherwise subject to the liabilities of that section, nor shall they be deemed incorporated by reference into any filing under the Exchange Act or the Securities Act of 1933, as amended, except as expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release of Flex Pharma, Inc. dated May 4, 2016.

SIGNATURES

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

Flex Pharma, Inc.

Dated: May 4, 2016

By: /s/ Robert Hadfield
Robert Hadfield
General Counsel and Secretary

INDEX TO EXHIBITS

Exhibit No.	Description
99.1	Press Release of Flex Pharma, Inc. dated May 4, 2016.

Flex Pharma Reports First Quarter 2016 Financial Results

-- Initiating Single Agent Human Efficacy Studies in NLC, MS and ALS this year --

-- Launching First Consumer Product Scientifically Proven to Treat and Prevent Muscle Cramps --

Conference Call Scheduled Today at 8:45 a.m. ET

May 4, 2016

Boston, MA - Flex Pharma, Inc. (NASDAQ: FLKS), a biotechnology company developing innovative and proprietary treatments for nocturnal leg cramps (NLC), spasms associated with severe neuromuscular conditions such as MS and ALS, and exercise-associated muscle cramps, today reported financial results for the quarter ended March 31, 2016 and provided an update on its clinical development and corporate activities.

"Our efforts in the clinical and consumer arms of the business continue to advance. With statistically significant positive human efficacy demonstrated in our nocturnal leg cramps study, we are poised to initiate human efficacy studies in NLC, MS and ALS this year with single agent selective, specific transient receptor potential (TRP) ion channel agonists. Additionally, within the next few weeks, we expect to begin commercializing the first consumer product proven to treat and prevent muscle cramps with a limited launch in three markets," stated Christoph Westphal, M.D., Ph.D., Chair and CEO of Flex Pharma. "With over $84 million in cash and investments at quarter end, Flex is well funded through the middle of 2018 to execute upon our mission of helping patients and consumers suffering from muscle cramps."

"Flex Pharma is advancing the clinical development of our product candidate for nocturnal leg cramps. We believe the statistically significant human efficacy data generated in our recent study are clinically meaningful and hold promise for a new treatment in the future for the millions of patients who currently have no safe and effective therapeutic options," said Flex Pharma Chief Medical Officer Thomas Wessel, M.D., Ph.D., who served as the medical lead for three products approved in the United States: Razadyne®, Lunesta® and Ampyra®. "These recent results encourage us to look beyond exercise-associated cramps and nocturnal leg cramps to spasms and spasticity in MS and other neurological diseases because we believe there are common underlying mechanisms at play."

"Based upon the recent results from the nocturnal leg cramps study, we believe in the potential positive impact of Chemical Neuro Stimulation – the process whereby small molecules activate TRP ion channels topically, which we

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hypothesize leads to sensory stimulation that in turn reduces hyperexcitability in motor neurons at multiple levels in the spinal cord," said Dr. Rod MacKinnon, Nobel Laureate and Flex Pharma Scientific Co-Founder, Board Member, and Scientific Advisory Board Co-Chair. "Chemical Neuro Stimulation may prove to be helpful to the millions afflicted by nocturnal leg cramps, to those suffering from exercise-associated muscle cramps, and hopefully, to those with severe neuromuscular disorders such as multiple sclerosis and amyotrophic lateral sclerosis."

Business Highlights

- Clinical Efforts
    - In April 2016, the Company presented its positive human NLC study, which was selected as one of only 14 abstracts for late-breaking presentations at the American Academy of Neurology (AAN) Annual Meeting. In this randomized, controlled, blinded study of subjects with frequent nocturnal leg cramps, the Company's extract formulation demonstrated statistically significant positive human efficacy on multiple key endpoints: muscle cramp frequency ($p<0.05$); cramp-free days ($p<0.01$); the physician-rated Clinical Global Impression of Change (CGI-C) ($p<0.01$); specific sleep disturbance measures ($p<0.05$); and specific pain measures ($p<0.01$). The positive effects were seen across a broad range of enrolled subjects; in addition, a subset of patients showed pronounced benefit. Additionally, the product appeared to be safe and well-tolerated and there were no serious adverse events reported. The topline results from this study were first reported in February 2016.

    - In April 2016, leading academics at The Pennsylvania State University (PSU) presented a positive effect of the Company's proprietary formulation on athletic human muscle cramps at the Experimental Biology conference. The Company's proprietary consumer formulation showed a statistically significant benefit in reducing muscle cramps in athletes as compared to vehicle control (as measured by the intensity-duration profile of voluntarily induced muscle cramps). Additionally, subject ratings of muscle soreness resulting from cramps were also lower compared to vehicle control. The research at the Noll Laboratory at PSU supports the development of our consumer product and complements our electrically-induced cramp model.

- Consumer Launch Preparations
    - The Company's consumer beverage has earned certification from NSF International's Certified for Sport® program. Products certified to the stringent NSF Certified for Sport® program include additional steps to screen supplements for more than 230 athletic banned substances,

which is why the program is used by the NFL, NHL, MLB, PGA, LPGA, the Canadian Centre for Ethics in Sport (CCES) and the New York City Police Department. Additionally, the consumer beverage has been certified USDA Organic as the product contains a minimum of 95 percent organic ingredients.

- Within the next few weeks, the Company expects to begin commercializing its cornerstone consumer product, scientifically proven to treat and prevent muscle cramps, in a limited launch with select retailers in Boston, Boulder and Los Angeles. The product will also become available for purchase on its branded website in June.

- Expanded Board of Directors
  - In March 2016, Michelle Stacy, former President of Keurig Inc., joined the Board of Directors of Flex Pharma. As the former president of Keurig, Inc. and former vice president and general manager with Gillette/P&G, Ms. Stacy brings a wealth of experience leading consumer businesses and building global brands. During her five-year tenure at Keurig Inc., a division of Keurig Green Mountain, the company's revenue grew from $493 million in FY2008 to $4.3 billion in FY2013.

First Quarter 2016 Financial Results

- **Cash Position:** As of March 31, 2016, Flex Pharma had cash, cash equivalents and marketable securities of $84.4 million. During quarter ended March 31, 2016, cash, cash equivalents and marketable securities decreased by $9.3 million.

- **R&D Expense:** Research and development expense for the three months ended March 31, 2016 was $4.4 million. Research and development expense for this period primarily includes costs associated with the Company's clinical studies of its extract formulation and FLX-787, personnel costs (including salaries and stock-based compensation costs), and external consultant costs.

- **SG&A Expense**: Selling, general and administrative expense for the three months ended March 31, 2016 was $5.3 million. Selling, general and administrative expense for this period primarily includes personnel costs (including salaries and stock-based compensation costs), costs related to developing the Company's consumer brand and cornerstone product, legal costs, and external consultant costs.

- **Net Loss:** Net loss for the three months ended March 31, 2016 was ($9.6) million, or ($0.61) per share. Net loss for the three months ended March 31, 2016 included $1.5 million of stock-based compensation expense. As of March

31, 2016, Flex Pharma had 16,004,746 shares of common stock outstanding, which excludes approximately 2.0 million shares of stock that remain subject to vesting. The net loss for the first quarter of 2016 was primarily driven by the Company's operating expenses related to its research and development efforts, costs associated with the development of the Company's consumer brand and cornerstone product, and general and administrative costs.

Financial Guidance

Based on its current cash, cash equivalents and marketable securities position, Flex Pharma expects to have sufficient capital to fund its operations through the middle of 2018.

Upcoming Events and Presentations

- Annual Shareholder Meeting, June 7, 2016 in Boston, MA
- Jefferies Healthcare Conference, June 7-10, 2016 in New York, NY
- Piper Jaffray Consumer Conference, June 14-15, 2016 in New York, NY
- JMP Securities Healthcare Conference, June 21-22, 2016 in New York, NY
- ROTH Healthcare Day, June 22, 2016 in London

Conference Call and Webcast

The company will host a conference call and webcast today at 8:45 a.m. ET to provide an update on the company and discuss first quarter 2016 financial results. To access the conference call, please dial (855) 780-7202 (U.S. and Canada) or (631) 485-4874 (International) five minutes prior to the start time.
A live webcast may be accessed in the Investors section of the company's website at www.flex-pharma.com. Please log on to the Flex Pharma website approximately 15 minutes prior to the scheduled webcast to ensure adequate time for any software downloads that may be required. A replay of the webcast will be available on Flex Pharma's website for three months.

About Flex Pharma

Flex Pharma, Inc. is a biotechnology company that is developing innovative and proprietary treatments for nocturnal leg cramps, spasms associated with severe neuromuscular conditions such as MS and ALS, and exercise-associated muscle cramps. Flex Pharma was founded by National Academy of Science members Rod MacKinnon, M.D. (2003 Nobel Laureate), and Bruce Bean, Ph.D., recognized leaders in the fields of ion channels and neurobiology, along with Chair and CEO Christoph Westphal, M.D., Ph.D.

Follow Flex Pharma on Twitter (@flexpharma) and visit the Company's web site (http://ir.flex-pharma.com/) for updates of the Company's pre-launch activities for its consumer product to prevent and treat exercise-associated muscle cramps.

Forward-Looking Statements

This press release contains forward-looking statements for purposes of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: the design and timing of ongoing and anticipated clinical studies, our expectations regarding the availability of our capital resources, and our plans to launch and commercialize our consumer product. These forward-looking statements are based on management's expectations and assumptions as of the date of this press release and are subject to numerous risks and uncertainties, which could cause actual results to differ materially from those expressed or implied by such statements. These risks and uncertainties include, without limitation: the status, timing, costs, results and interpretation of our clinical studies; the uncertainties inherent in conducting clinical studies; results from our ongoing and planned preclinical development; expectations of our ability to make regulatory filings and obtain and maintain regulatory approvals, our ability to launch and commercialize our consumer product; anticipated positioning and product attributes of our consumer product; 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 greater detail under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2015 and subsequent filings with the Securities and Exchange Commission (SEC). You are encouraged to read our filings with the SEC, available at www.sec.gov, for a discussion of these and other risks and uncertainties. Any forward-looking statements that we make in this press release speak only as of the date of this press release. We assume no obligation to update our forward-looking statements whether as a result of new information, future events or otherwise, after the date of this press release.

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- Financial Tables to Follow -

Flex Pharma, Inc.

Unaudited Selected Consolidated Balance Sheet Information

(in thousands)

		March 31, 2016		December 31, 2015
Cash and cash equivalents	$	54,000	$	66,687
Marketable securities		30,377		26,965
Inventory		113		-
Prepaid expenses and other current assets		1,992		909
Property and equipment, net		578		382
Other assets		192		127
Total assets	$	87,252	$	95,070
Accounts payable and accrued expenses	$	3,020	$	2,823
Other liabilities		62		55
Stockholders' equity		84,170		92,192
Total liabilities and stockholders' equity	$	87,252	$	95,070

Unaudited Condensed Consolidated Statements of Operations

(in thousands, except per share amounts)

		Three Months Ended March 31, 2016		Three Months Ended March 31, 2015
Costs and expenses:				
Research and development	$	4,387	$	2,805
Selling, general and administrative, and cost of production		5,309		3,216
Total costs and expenses		9,696		6,021
Loss from operations		(9,696)		(6,021)
Interest income, net		103		3
Net loss	$	(9,593)	$	(6,018)
Net loss per share–basic and diluted	$	(0.61)	$	(0.59)
Weighted-average number of common shares outstanding (1)		15,844		10,180

(1) In 2014, the Company issued approximately 5.4 million shares of restricted stock to the Company's founders that are subject to vesting. Of these shares, approximately 3.5 million shares had vested at March 31, 2016 and are outstanding for purposes of computing weighted average shares outstanding. The remaining shares will be included in the weighted average share calculation as such shares vest over approximately the next two years.