Flex Pharma, Inc. Form SC 13D/A October 26, 2018

SECURITIES AND EXCHANGE COMMISSION Washington, DC 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934 (Amendment No. 3)*

Flex Pharma, Inc.

(Name of Issuer)

Common Stock, \$0.0001 par value

(Title of Class of Securities)

33938A 105

(CUSIP Number)

John Lawrence

c/o Longwood Fund Management, LLC

Prudential Tower, Suite 1555

800 Boylston Street

Boston, MA 02199

(617) 351-2590

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

October 16, 2018

(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. o

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be filed for the purpose of Section 18 of the Securities Exchange Act of 1934 (Act) or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 33938A 105

1.	Name of Reporting F Longwood Fund II, I	
2.	Check the Appropria (a) (b)	te Box if a Member of a Group (See Instructions) o x
3.	SEC Use Only	
4.	Source of Funds (See N/A	e Instructions)
5.	Check if Disclosure	of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o
6.	Citizenship or Place Delaware, United Sta	
	7.	Sole Voting Power 0
Number of Shares Beneficially Owned by	8.	Shared Voting Power 0
Each Reporting Person With	9.	Sole Dispositive Power 0
Crson with	10.	Shared Dispositive Power 0
11.	Aggregate Amount E	Beneficially Owned by Each Reporting Person
12.	Check if the Aggrega	ate Amount in Row (11) Excludes Certain Shares (See Instructions) o
13.	Percent of Class Rep 0.0%	resented by Amount in Row 11
14.	Type of Reporting Po	erson (See Instructions)
		2

13D

CUSIP No. 33938A 105

1.	Name of Reporting P Longwood Fund III, 1	
2.	Check the Appropriat (a) (b)	te Box if a Member of a Group (See Instructions) o x
3.	SEC Use Only	
4.	Source of Funds (See N/A	Instructions)
5.	Check if Disclosure of	of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o
6.	Citizenship or Place of Delaware, United Sta	
	7.	Sole Voting Power 0
Number of Shares Beneficially Owned by	8.	Shared Voting Power 0
Each Reporting Person With	9.	Sole Dispositive Power 0
Cison With	10.	Shared Dispositive Power 0
11.	Aggregate Amount B	eneficially Owned by Each Reporting Person
12.	Check if the Aggrega	te Amount in Row (11) Excludes Certain Shares (See Instructions) o
13.	Percent of Class Repr 0.0%	resented by Amount in Row 11
14.	Type of Reporting Pe PN	erson (See Instructions)
		3
		3

CUSIP No. 33938A 105		13D	
1.	Name of Reporting Persons Longwood Fund II GP, LLC		
2.	Check the Appropriate B (a) (b)	sox if a Member of a Group (See Instructions) o x	
3.	SEC Use Only		
4.	Source of Funds (See Ins	structions)	
5.	Check if Disclosure of L	egal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o	
6.	Citizenship or Place of C Delaware, United States		
Number of	7.	Sole Voting Power 0	
Shares Beneficially Owned by	8.	Shared Voting Power 0	
Each Reporting Person With	9.	Sole Dispositive Power 0	
	10.	Shared Dispositive Power 0	
11.	Aggregate Amount Bene 0	eficially Owned by Each Reporting Person	
12.	Check if the Aggregate A	Amount in Row (11) Excludes Certain Shares (See Instructions) o	
13.	Percent of Class Represe	ented by Amount in Row 11	
14.	Type of Reporting Person (See Instructions) OO		
		4	

CUSIP No. 33938A 105

1.	Name of Reporting Per Longwood Fund III GR	
2.	Check the Appropriate (a) (b)	Box if a Member of a Group (See Instructions) o x
3.	SEC Use Only	
4.	Source of Funds (See I N/A	instructions)
5.	Check if Disclosure of	Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o
6.	Citizenship or Place of Delaware, United State	
	7.	Sole Voting Power 0
Number of Shares Beneficially Owned by	8.	Shared Voting Power 0
Each Reporting Person With	9.	Sole Dispositive Power 0
Torson With	10.	Shared Dispositive Power 0
11.	Aggregate Amount Ber	neficially Owned by Each Reporting Person
12.	Check if the Aggregate	e Amount in Row (11) Excludes Certain Shares (See Instructions) o
13.	Percent of Class Repre 0.0%	sented by Amount in Row 11
14.	Type of Reporting Pers	son (See Instructions)
		5

CUSIP No. 33938A 105

1.	Name of Reporting Persons Christoph Westphal, M.D., P	h.D.
2.	Check the Appropriate Box i (a) (b)	f a Member of a Group (See Instructions) o x
3.	SEC Use Only	
4.	Source of Funds (See Instruc PF	tions)
5.	Check if Disclosure of Legal	Proceedings Is Required Pursuant to Items 2(d) or 2(e) o
6.	Citizenship or Place of Organ United States citizen	nization
		ole Voting Power 941,118
Number of Shares Beneficially	8. SI 0	nared Voting Power
Owned by Each Reporting Person With		ole Dispositive Power 941,118
Terson with	10. SI 0	nared Dispositive Power
11.	Aggregate Amount Beneficia 3,941,118	ally Owned by Each Reporting Person
12.	Check if the Aggregate Amo	unt in Row (11) Excludes Certain Shares (See Instructions) o
13.	Percent of Class Represented 21.8%	by Amount in Row 11
14.	Type of Reporting Person (So IN	ee Instructions)
		6

CUSIP No. 33938A 105

1.	Name of Reporting I Richard Aldrich	Persons
2.	Check the Appropria (a) (b)	tte Box if a Member of a Group (See Instructions) o x
3.	SEC Use Only	
4.	Source of Funds (See PF	e Instructions)
5.	Check if Disclosure	of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o
6.	Citizenship or Place United States citizen	-
	7.	Sole Voting Power 216,828
Number of Shares Beneficially Dwned by	8.	Shared Voting Power 0
Each Reporting Person With	9.	Sole Dispositive Power 216,828
Cison with	10.	Shared Dispositive Power 0
11.	Aggregate Amount F 216,828	Beneficially Owned by Each Reporting Person
12.	Check if the Aggrega	ate Amount in Row (11) Excludes Certain Shares (See Instructions) o
13.	Percent of Class Rep 1.2%	resented by Amount in Row 11
14.	Type of Reporting Policy IN	erson (See Instructions)
		7

Explanatory Note

This Amendment No. 3 to Schedule 13D is being filed by Longwood Fund II, L.P., Longwood Fund III, L.P., Longwood Fund III GP, LLC, Longwood Fund III GP, LLC, Christoph Westphal, M.D., Ph.D., and Richard Aldrich, (collectively, the Reporting Persons), pursuant to \$240.13d-2(a), to amend the Schedule 13D filed by the Reporting Persons on February 19, 2015, as amended on March 22, 2016 and May 19, 2016 (the Existing Schedule 13D) relating to the Common Stock, \$0.0001 par value per share (the Common Stock), of Flex Pharma, Inc. (the Issuer). The purpose of this amendment is to reflect the shares of Common Stock sold by Longwood Fund II, L.P. and Longwood Fund III, L.P. on October 16, 2018. Except as set forth below, all Items of the Existing Schedule 13D remain unchanged. All capitalized terms not otherwise defined herein shall have the meanings ascribed to such terms in the Existing Schedule 13D.

Item 1. Security and Issuer.

There are no amendments to Item 1 of the Existing Schedule 13D.

Item 2. Identity and Background.

There are no amendments to Item 2 of the Existing Schedule 13D.

Item 3. Source and Amount of Funds or Other Consideration.

There are no amendments to Item 3 of the Existing Schedule 13D.

Item 4. Purpose of Transaction.

As a result of the transactions listed in item 5(c) to this Schedule 13D, the Reporting Persons and/or certain of their affiliates no longer constitute a group for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act). Longwood Fund II, L.P., Longwood Fund III, L.P., Longwood Fund III GP, LLC and Richard Aldrich, each expressly disclaim beneficial ownership over any shares owned by Christoph Westphal, M.D., Ph.D., (Westphal) reported in this Schedule 13D. Westphal is separately making a Schedule 13D filing reporting his beneficial ownership.

Item 5. Interest in Securities of the Issuer.

Items 5(a) and 5(b) of the Existing Schedule 13D are hereby amended and restated in their entirety as follows:

The aggregate percentage of shares of Common Stock reported beneficially owned by each person named herein is determined in accordance with SEC rules and is based upon 18,069,476 shares of the Issuer s Common Stock outstanding as of July 27, 2018, as set forth on the cover page of the Issuer s Quarterly Report on Form 10-Q for the quarter ended June 30, 2018. The applicable SEC rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities.

A. Longwood Fund II, L.P.

(a) As of the close of business on October 16, 2018, Longwood Fund II, L.P. beneficially owned 0 shares of Common Stock, representing 0.0% of the outstanding shares of Common Stock.

((b)	1. Sole power to vote or direct vote:	0
		2. Shared power to vote or direct vote:	0
		3. Sole power to dispose or direct the disposition:	0
		4. Shared power to dispose or direct the disposition:	0

B. Longwood Fund II GP, LLC

(a) As of the close of business on October 16, 2018, Longwood Fund II GP, LLC beneficially owned 0 shares of Common

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Stock, representing 0.0% of the outstanding shares of Common Stock.

(b)	1. Sole power to vote or direct vote:	0
	2. Shared power to vote or direct vote:	0
	3. Sole power to dispose or direct the disposition:	0
	4. Shared power to dispose or direct the disposition:	0

C. Longwood Fund III, L.P.

(a) As of the close of business on October 16, 2018, Longwood Fund III, L.P. beneficially owned 0 shares of Common Stock, representing 0.0% of the outstanding shares of Common Stock.

(b)	1. Sole power to vote or direct vote:	0
	2. Shared power to vote or direct vote:	0
	3. Sole power to dispose or direct the disposition:	0
	4. Shared power to dispose or direct the disposition:	0

D. Longwood Fund III GP, LLC

(a) As of the close of business on October 16, 2018, Longwood Fund III GP, LLC beneficially owned 0 shares of Common Stock, representing 0.0% of the outstanding shares of Common Stock.

(b)	1. Sole power to vote or direct vote:	0
	2. Shared power to vote or direct vote:	0
	3. Sole power to dispose or direct the disposition:	0
	4. Shared power to dispose or direct the disposition:	0

E. Christoph Westphal, M.D., Ph.D.

(a) As of the close of business on October 16, 2018, Christoph Westphal, M.D., Ph.D. beneficially owned 3,941,118 shares of Common Stock, representing a beneficial ownership of approximately 21.8% of the outstanding shares of Common Stock. 3,902,927 of these shares are directly held by Dr. Westphal personally, 22,321 are directly held by The Christoph H. Westphal Revocable Trust of 2007 and 15,870 are directly held by The Christoph Westphal Roth IRA.

(b) 1. Sole power to vote or direct vote: 3,941,118

2. Shared power to vote or direct vote:	0
3. Sole power to dispose or direct the disposition:	3,941,118
4. Shared power to dispose or direct the disposition:	0

F. Richard Aldrich

(a) As of the close of business on October 16, 2018, Richard Aldrich, beneficially owned 216,828 shares of Common Stock, representing a beneficial ownership of approximately 1.2% of the outstanding shares of Common Stock. 170,488 of these shares are directly held by Mr. Aldrich personally and 46,340 are directly held by the Richard H. Aldrich 2014 GRAT.

(b)	1. Sole power to vote or direct vote:	216,828
	2. Shared power to vote or direct vote:	0
	3. Sole power to dispose or direct the disposition:	216,828
	4. Shared power to dispose or direct the disposition:	0
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Item 5(c) is hereby amended to append the following:
On October 16, 2018 Longwood Fund II, L.P. sold 2,697,264 shares of Common Stock of the Issuer, and Longwood Fund III, L.P. sold 515,597 shares of Common Stock of the Issuer. These shares were sold in multiple open market sale transactions at prices ranging from \$0.70 to \$1.33, inclusive, for an aggregate sale price of \$2,941,013.38.
Item 5(e) is hereby amended and restated in its entirety as follows:
As a result of the sales made on October 16, 2018, Longwood Fund II, L.P., Longwood Fund III, L.P., Longwood Fund III GP, LLC, Longwood Fund III GP, LLC and Richard Aldrich no longer beneficially own 5% of the outstanding shares of Common Stock of the Issuer.
Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.
There are no amendments to Item 6 of the Existing Schedule 13D.
Item 7. Material to be Filed as Exhibits.
There are no amendments to Item 7 of the Existing Schedule 13D.
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SIGNATURES

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: October 26, 2018

LONGWOOD FUND II, L.P.

LONGWOOD FUND III, L.P.

Longwood Fund II GP, LLC, a Delaware limited liability By: Longwood Fund III GP, LLC, a Delaware By:

company and general partner of Longwood Fund II L.P. limited liability company and general

partner of Longwood Fund II L.P.

By: /s/ John Lawrence By: /s/ John Lawrence John Lawrence, Chief Financial Officer John Lawrence, Chief Financial Officer

LONGWOOD FUND II GP, LLC

LONGWOOD FUND III GP, LLC

/s/ John Lawrence /s/ John Lawrence John Lawrence, Chief Financial Officer John Lawrence, Chief Financial Officer

/s/ Christoph Westphal /s/ Richard Aldrich Christoph Westphal, M.D., Ph.D. Richard Aldrich

Attention: Intentional misstatements or omissions of fact

constitute Federal criminal violations (See 18 U.S.C. 1001)