

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Schedule 13D

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULES 13d-1 (a) AND AMENDMENTS THERETO FILED PURSUANT TO  
13d-2 (a)

(AMENDMENT NO. 4)\*

**AcelRx Pharmaceuticals, Inc.**

(Name of Issuer)

Common Stock  
(Title of Class of Securities)

00444T100  
(CUSIP Number)

Mark Wan  
c/o Three Arch Partners  
19 South B Street, Suite 14  
San Mateo, CA 94401  
(650) 529-8000

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

**COPY TO:**

Sean Caplice, Esq.  
c/o Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP  
1200 Seaport Boulevard, Redwood City, California 94063  
(650) 321-2400

March 7, 2016

(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 Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box ☐.

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 the cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purposes 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).

(Continued on following pages)

1	NAME OF REPORTING PERSONS Three Arch Partners IV, L.P. (the " <u>TAP IV</u> ")		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC USE ONLY		
4	SOURCE OF FUNDS WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 5,901,589 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012), except that Three Arch Management IV, L.L.C. (the " <u>TAM IV</u> ") is the general partner of TAP IV and may be deemed to have sole power to vote these shares, and Mark Wan (" <u>Wan</u> ") and Wilfred Jaeger (" <u>Jaeger</u> ") are the managing members of TAM IV and may be deemed to have shared power to vote these shares.	
	8	SHARED VOTING POWER See response to row 7.	
	9	SOLE DISPOSITIVE POWER 5,901,589 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012), except that TAM IV is the general partner of TAP IV and may be deemed to have sole power to dispose of these shares, and Wan and Jaeger are the managing members of TAM IV and may be deemed to have shared power to dispose of these shares.	
	10	SHARED DISPOSITIVE POWER See response to row 9.	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,901,589		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 13.0%		
14	TYPE OF REPORTING PERSON (See Instructions) PN		

1	NAME OF REPORTING PERSONS Three Arch Associates IV, L.P. ("TAA IV")		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC USE ONLY		
4	SOURCE OF FUNDS WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 130,304 shares (including 4,151 shares represented by warrants exercisable on November 29, 2012), except that TAM IV is the general partner of TAA IV and may be deemed to have sole power to vote these shares, and Wan and Jaeger are the managing members of TAM IV and may be deemed to have shared power to vote these shares.	
	8	SHARED VOTING POWER See response to row 7.	
	9	SOLE DISPOSITIVE POWER 130,304 shares (including 4,151 shares represented by warrants exercisable on November 29, 2012), except that TAM IV is the general partner of TAA IV and may be deemed to have sole power to dispose of these shares, and Wan and Jaeger are the managing members of TAM IV and may be deemed to have shared power to dispose of these shares.	
	10	SHARED DISPOSITIVE POWER See response to row 9.	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 130,304		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.3%		
14	TYPE OF REPORTING PERSON (See Instructions) PN		

1	NAME OF REPORTING PERSONS Three Arch Management IV, L.L.C. ("TAM IV")		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC USE ONLY		
4	SOURCE OF FUNDS WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 6,031,893 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012 by TAP IV and 4,151 shares represented by warrants exercisable on November 29, 2012 by TAA IV), of which 5,901,589 are directly owned by TAP IV and 130,304 are directly owned by TAA IV. TAM IV is the general partner of each of TAP IV and TAA IV and may be deemed to have sole power to vote these shares. Wan and Jaeger are the managing members of TAM IV and may be deemed to have shared power to vote these shares.	
	8	SHARED VOTING POWER See response to row 7.	
	9	SOLE DISPOSITIVE POWER 6,031,893 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012 by TAP IV and 4,151 shares represented by warrants exercisable on November 29, 2012 by TAA IV), of which 5,901,589 are directly owned by TAP IV and 130,304 are directly owned by TAA IV. TAM IV is the general partner of each of TAP IV and TAA IV and may be deemed to have sole power to dispose of these shares. Wan and Jaeger are the managing members of TAM IV and may be deemed to have shared power to dispose of these shares.	
	10	SHARED DISPOSITIVE POWER See response to row 9.	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 6,031,893		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 13.3%		
14	TYPE OF REPORTING PERSON (See Instructions) OO		

1	NAME OF REPORTING PERSONS Three Arch Partners III, L.P. (the " <u>TAP III</u> ")		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC USE ONLY		
4	SOURCE OF FUNDS WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 3,408,146 shares (including 60,789 shares represented by warrants exercisable on November 29, 2012), except that Three Arch Management III, L.L.C. (the " <u>TAM III</u> ") is the general partner of TAP III and may be deemed to have sole power to vote these shares, and Wan and Jaeger are the managing members of TAM III and may be deemed to have shared power to vote these shares.	
	8	SHARED VOTING POWER See response to row 7.	
	9	SOLE DISPOSITIVE POWER 3,408,146 shares (including 60,789 shares represented by warrants exercisable on November 29, 2012), except that TAM III is the general partner of TAP III and may be deemed to have sole power to dispose of these shares, and Wan and Jaeger are the managing members of TAM III and may be deemed to have shared power to dispose of these shares.	
	10	SHARED DISPOSITIVE POWER See response to row 9.	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,408,146		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 7.5%		
14	TYPE OF REPORTING PERSON (See Instructions) PN		

1	NAME OF REPORTING PERSONS Three Arch Associates III, L.P. ("TAA III")		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC USE ONLY		
4	SOURCE OF FUNDS WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 183,230 shares (including 3,268 shares represented by warrants exercisable on November 29, 2012), except that TAM III is the general partner of TAA III and may be deemed to have sole power to vote these shares, and Wan and Jaeger are the managing members of TAM III and may be deemed to have shared power to vote these shares.	
	8	SHARED VOTING POWER See response to row 7.	
	9	SOLE DISPOSITIVE POWER 183,230 shares (including 3,268 shares represented by warrants exercisable on November 29, 2012), except that TAM III is the general partner of TAA III and may be deemed to have sole power to dispose of these shares, and Wan and Jaeger are the managing members of TAM III and may be deemed to have shared power to dispose of these shares.	
	10	SHARED DISPOSITIVE POWER See response to row 9.	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 183,230		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.4%		
14	TYPE OF REPORTING PERSON (See Instructions) PN		

1	NAME OF REPORTING PERSONS Three Arch Management III, L.L.C. ("TAM III")		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC USE ONLY		
4	SOURCE OF FUNDS WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 3,591,376 shares (including 60,789 shares represented by warrants exercisable on November 29, 2012 by TAP III and 3,268 shares represented by warrants exercisable on November 29, 2012 by TAA III), of which 3,408,146 are directly owned by TAP III and 183,230 are directly owned by TAA III. TAM III is the general partner of each of TAP III and TAA III and may be deemed to have sole power to vote these shares. Wan and Jaeger are the managing members of TAM III and may be deemed to have shared power to vote these shares.	
	8	SHARED VOTING POWER See response to row 7.	
	9	SOLE DISPOSITIVE POWER 3,591,376 shares (including 60,789 shares represented by warrants exercisable on November 29, 2012 by TAP III and 3,268 shares represented by warrants exercisable on November 29, 2012 by TAA III), of which 3,408,146 are directly owned by TAP III and 183,230 are directly owned by TAA III. TAM III is the general partner of each of TAP III and TAA III and may be deemed to have sole power to dispose of these shares. Wan and Jaeger are the managing members of TAM III and may be deemed to have shared power to dispose of these shares.	
	10	SHARED DISPOSITIVE POWER See response to row 9.	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,591,376		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 7.9%		
14	TYPE OF REPORTING PERSON (See Instructions) OO		

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSON (Entities Only). Mark Wan ("Wan")	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 61,250 shares (all of which are represented by options exercisable within 60 days hereof).
	8	SHARED VOTING POWER 9,623,269 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012 by TAP IV; 4,151 shares represented by warrants exercisable on November 29, 2012 by TAA IV; 60,789 shares represented by warrants exercisable on November 29, 2012 by TAP III; and 3,268 shares represented by warrants exercisable on November 29, 2012 by TAA III), of which 5,901,589 are directly owned by TAP IV, 130,304 are directly owned by TAA IV, 3,408,146 are directly owned by TAP III and 183,230 are directly owned by TAA III. TAM IV, the general partner of each of TAP IV and TAA IV, may be deemed to have the sole power to vote the shares held by TAP IV and TAA IV. TAM III, the general partner of each of TAP III and TAA III, may be deemed to have the sole power to vote the shares held by TAP III and TAA III. Wan is a managing member of TAM IV and TAM III, and may be deemed to have shared power to vote the shares held by TAP IV, TAA IV, TAP III and TAA III.
	9	SOLE DISPOSITIVE POWER 61,250 shares (all of which are represented by options exercisable within 60 days hereof).
	10	SHARED DISPOSITIVE POWER 9,623,269 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012 by TAP IV; 4,151 shares represented by warrants exercisable on November 29, 2012 by TAA IV; 60,789 shares represented by warrants exercisable on November 29, 2012 by TAP III; and 3,268 shares represented by warrants exercisable on November 29, 2012 by TAA III), of which 5,901,589 are directly owned by TAP IV, 130,304 are directly owned by TAA IV, 3,408,146 are directly owned by TAP III and 183,230 are directly owned by TAA III. TAM IV, the general partner of each of TAP IV and TAA IV, may be deemed to have the sole power to dispose of the shares held by TAP IV and TAA IV. TAM III, the general partner of each of TAP III and TAA III, may be deemed to have the sole power to dispose of the shares held by TAP III and TAA III. Wan is a managing member of TAM IV and TAM III, and may be deemed to have shared power to dispose of the shares held by TAP IV, TAA IV, TAP III and TAA III.
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 9,684,519	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 21.4%	
14	TYPE OF REPORTING PERSON (See Instructions) IN	



1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSON (Entities Only). Wilfred Jaeger ("Jaeger")		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC USE ONLY		
4	SOURCE OF FUNDS WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>		
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0 shares.	
	8	SHARED VOTING POWER 9,623,269 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012 by TAP IV; 4,151 shares represented by warrants exercisable on November 29, 2012 by TAA IV; 60,789 shares represented by warrants exercisable on November 29, 2012 by TAP III; and 3,268 shares represented by warrants exercisable on November 29, 2012 by TAA III), of which 5,901,589 are directly owned by TAP IV, 130,304 are directly owned by TAA IV, 3,408,146 are directly owned by TAP III and 183,230 are directly owned by TAA III. TAM IV, the general partner of each of TAP IV and TAA IV, may be deemed to have the sole power to vote the shares held by TAP IV and TAA IV. TAM III, the general partner of each of TAP III and TAA III, may be deemed to have the sole power to vote the shares held by TAP III and TAA III. Jaeger is a managing member of TAM IV and TAM III, and may be deemed to have shared power to vote the shares held by TAP IV, TAA IV, TAP III and TAA III.	
	9	SOLE DISPOSITIVE POWER 0 shares.	
	10	SHARED DISPOSITIVE POWER 9,623,269 shares (including 188,020 shares represented by warrants exercisable on November 29, 2012 by TAP IV; 4,151 shares represented by warrants exercisable on November 29, 2012 by TAA IV; 60,789 shares represented by warrants exercisable on November 29, 2012 by TAP III; and 3,268 shares represented by warrants exercisable on November 29, 2012 by TAA III), of which 5,901,589 are directly owned by TAP IV, 130,304 are directly owned by TAA IV, 3,408,146 are directly owned by TAP III and 183,230 are directly owned by TAA III. TAM IV, the general partner of each of TAP IV and TAA IV, may be deemed to have the sole power to dispose of the shares held by TAP IV and TAA IV. TAM III, the general partner of each of TAP III and TAA III, may be deemed to have the sole power to dispose of the shares held by TAP III and TAA III. Jaeger is a managing member of TAM IV and TAM III, and may be deemed to have shared power to dispose of the shares held by TAP IV, TAA IV, TAP III and TAA III.	
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 9,623,269		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 21.2%		
14	TYPE OF REPORTING PERSON (See Instructions) IN		

**Statement on Schedule 13D**

This Amendment No. 4 to Schedule 13D is filed to reflect changes resulting solely from the impact of changes in the number of outstanding shares of Common Stock of AcelRx Pharmaceuticals, Inc., a Delaware corporation. This Amendment No. 4 supplements and amends the Schedule 13D originally filed with the Securities and Exchange Commission on February 25, 2011, as amended May 29, 2012, as amended December 17, 2012, as amended on March 7, 2014 (as amended, the "Schedule 13D"). Only those items that are hereby reported are amended; all other items remain unchanged.

**ITEM 5. INTEREST IN SECURITIES OF THE ISSUER.**

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

(a,b) Regarding aggregate beneficial ownership, see Row 11 of the cover page of each Reporting Person. Regarding percentage beneficial ownership, see Row 13 of the cover page of each Reporting Person. Regarding sole power to vote shares, see Row 7 of the cover page of each Reporting Person. Regarding shared power to vote shares, see Row 8 of the cover page of each Reporting Person. Regarding sole power to dispose of shares, see Row 9 of the cover page of each Reporting Person. Regarding shared power to dispose of shares, see Row 10 of the cover page of each Reporting Person. In its Quarterly Report on Form 10-Q for the three months ended September 30, 2016, the Company reported 45,333,790 shares outstanding as of October 21, 2016 (the "Share Outstanding Date"). Although none of the Reporting Persons acquired any shares of Common Stock from the date the Reporting Persons filed Amendment No. 3 to this Schedule 13D through the Share Outstanding Date (the "Interim Period"), as a result of various issuances by the Company of its Common Stock during the Interim Period, there was a material change in the percentage of Common Stock that the Reporting Persons are deemed to beneficially own.

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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.

Date: February 14, 2017

Three Arch Partners IV, L.P.  
By Three Arch Management IV, L.L.C.  
Its General Partner

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

Three Arch Associates IV, L.P.  
By Three Arch Management IV, L.L.C.  
Its General Partner

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

Three Arch Partners III, L.P.  
By Three Arch Management III, L.L.C.  
Its General Partner

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

Three Arch Associates III, L.P.  
By Three Arch Management III, L.L.C.  
Its General Partner

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

Three Arch Management IV, L.L.C.

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

Three Arch Management III, L.L.C.

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

Mark Wan

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

Wilfred Jaeger

/s/ Steve Agelopoulos  
Steve Agelopoulos, by Power of Attorney

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