

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

AMENDMENT NO. 1 TO
FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

PHIO PHARMACEUTICALS CORP.
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

2834
(Primary Standard Industrial
Classification Code Number)

45-3215903
(I.R.S. Employer
Identification Number)

**257 Simarano Drive, Suite 101
Marlborough, Massachusetts 01752
(508) 767-3861**

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

**Gerrit Dispersyn, Dr. Med. Sc.
President & CEO
Phio Pharmaceuticals Corp.
257 Simarano Drive, Suite 101
Marlborough, Massachusetts 01752
(508) 767-3861**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

**Copies to:
Ryan A. Murr
Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, CA 94105
Telephone: (415) 393-8373
Facsimile: (415) 374-8430**

Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 7(a)(2)(B) of the Securities Act.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This Amendment No. 1 (this “Amendment”) to the Registration Statement on Form S-3 (File No 333-252588) (the “Registration Statement”) of Phio Pharmaceuticals Corp. (the “Company”) is being filed solely to file a revised consent of BDO USA, LLP, the Company’s independent registered public accounting firm, as Exhibit 23.1 to the Registration Statement. Accordingly, this Amendment consists solely of the facing page, this Explanatory Note, Item 16 of Part II of the Registration Statement, the signature page and Exhibit 23.1. The prospectus and the balance of Part II of the Registration Statement are unchanged and have been omitted.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Exhibits Exhibit Number	Description	Incorporated by Reference Herein	
		Form	Date
3.1	Amended and Restated Certificate of Incorporation of Phio Pharmaceuticals Corp.	Current Report on Form 8-K (File No. 001-36304)	November 19, 2018
3.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Phio Pharmaceuticals Corp.	Current Report on Form 8-K (File No. 001-36304)	January 14, 2020
3.3	Amended and Restated Bylaws of Phio Pharmaceuticals Corp.	Current Report on Form 8-K (File No. 001-36304)	October 13, 2020
4.1	Form of Warrant.	Amendment No. 3 to the Registration Statement on Form S-1 (File No. 333-214199)	December 14, 2016
4.2	Form of Warrant.	Current Report on Form 8-K (File No. 001-36304)	April 11, 2018
4.3	Form of Placement Agent Warrant.	Current Report on Form 8-K (File No. 001-36304)	April 11, 2018
4.4	Form of Warrant.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-221173)	September 28, 2018
4.5	Form of Underwriter Warrant.	Current Report on Form 8-K (File No. 001-36304)	October 5, 2018
4.6	Form of Placement Agent Warrant.	Current Report on Form 8-K (File No. 001-36304)	November 20, 2019
4.7	Form of Warrant.	Current Report on Form 8-K (File No. 001-36304)	February 6, 2020
4.8	Form of Warrant.	Current Report on Form 8-K (File No. 001-36304)	February 13, 2020
4.9	Form of Underwriter Warrant.	Current Report on Form 8-K (File No. 001-36304)	February 13, 2020
4.10	Form of Warrant.	Current Report on Form 8-K (File No. 001-36304)	April 2, 2020
4.11	Form of Common Stock Warrant	Current Report on Form 8-K (File No. 001-36304)	January 25, 2021
4.12	Form of Pre-Funded Warrant	Current Report on Form 8-K (File No. 001-36304)	January 25, 2021
5.1	Opinion of Gibson, Dunn & Crutcher LLP**		
23.1	Consent of BDO USA, LLP, an Independent Registered Public Accounting Firm.**		
23.2	Consent of Gibson, Dunn & Crutcher LLP (included in Exhibit 5.1). **		
24.1	Powers of Attorney (included on the signature page of Part II of this Registration Statement on Form S-3). **		

Filed herewith. *

Previously filed. **

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Marlborough, Massachusetts, on February 4, 2021.

PHIO PHARMACEUTICALS CORP.

By: /s/ Gerrit Dispersyn
Gerrit Dispersyn, Dr. Med. Sc.
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to the Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Gerrit Dispersyn</u> Gerrit Dispersyn, Dr. Med. Sc.	President, Chief Executive Officer and Director (Principal Executive Officer and Principal Financial Officer)	February 4, 2021
<u>/s/ Caitlin Kontulis</u> Caitlin Kontulis	Vice President of Finance & Administration and Secretary (Principal Accounting Officer)	February 4, 2021
<u>*</u> Robert J. Bitterman	Director	February 4, 2021
<u>*</u> Geert Cauwenbergh, Dr. Med. Sc.	Director	February 4, 2021
<u>*</u> H. Paul Dorman	Director	February 4, 2021
<u>*</u> Robert L. Ferrara	Director	February 4, 2021
<u>*</u> Jonathan E. Freeman, Ph.D.	Director	February 4, 2021
<u>*</u> Curtis A. Lockshin, Ph.D.	Director	February 4, 2021

*By: /s/ Gerrit Dispersyn
Gerrit Dispersyn, Dr. Med. Sc.
Attorney-in-fact

Consent of Independent Registered Public Accounting Firm

Phio Pharmaceuticals Corp.
Marlborough, Massachusetts

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 26, 2020, relating to the consolidated financial statements of Phio Pharmaceuticals Corp. appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2019.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP

Boston, Massachusetts
February 4, 2021