Filed Pursuant to Rule 424(b)(3)
Registration No. 333-204905

Prospectus Supplement No. 41
(To Prospectus dated October 14, 2015)

4,000,000 shares of common stock issuable upon the exercise of the 4,000,000 outstanding Class A warrants

and

2,000,000 shares of common stock issuable upon the exercise of the 4,000,000 outstanding Class B warrants

This prospectus supplement No. 41 supplements the prospectus dated October 14, 2015 filed pursuant to Rule 424(b)(4) by Cerecor Inc. (the "Company" or "we"), as supplemented by the prospectus supplement No. 1 dated October 20, 2015, the prospectus supplement No. 2 dated November 13, 2015, the prospectus supplement No. 3 dated November 23, 2015, the prospectus supplement No. 4 dated December 17, 2015, the prospectus supplement No. 5 dated December 21, 2015, the prospectus supplement No. 6 dated December 29, 2015, the prospectus supplement No. 7 dated January 5, 2016, the prospectus supplement No. 8 dated January 12, 2016, the prospectus supplement No. 9 dated January 19, 2016, the prospectus supplement No. 10 dated February 2, 2016, the prospectus supplement No. 11 dated April 11, 2016, the prospectus supplement No. 12 dated May 25, 2016, the prospectus supplement No. 13 dated May 26, 2016, the prospectus supplement No. 14 dated May 26, 2016, the prospectus supplement No. 15 dated July 20, 2016, the prospectus supplement No. 16 dated August 15, 2016, the prospectus supplement No. 17 dated August 29, 2016, the prospectus supplement No. 18 dated September 6, 2016, the prospectus supplement No. 19 dated September 12, 2016, the prospectus supplement No. 20 dated September 21, 2016, the prospectus supplement No. 21 dated September 26, 2016, the prospectus supplement No. 22 dated November 8, 2016, the prospectus supplement No. 23 dated November 29, 2016, the prospectus supplement No. 24 dated December 5, 2016, the prospectus supplement No. 25 dated January 20, 2017, the prospectus supplement No. 26 dated January 27, 2017, the prospectus supplement No. 27 dated January 30, 2017, the prospectus supplement No. 28 dated March 2, 2017, the prospectus supplement No. 29 dated March 13, 2017, the prospectus supplement No. 30 dated March 15, 2017, the prospectus supplement No. 31 dated May 9, 2017, the prospectus supplement No. 32 dated July 7, 2017, the prospectus supplement No. 33 dated July 7, 2017, the prospectus supplement No. 34 dated August 14, 2017, the prospectus supplement No. 35 dated August 14, 2017, the prospectus supplement No. 36 dated August 25, 2017, the prospectus supplement No. 37 dated October 17, 2017, the prospectus supplement No. 38 dated October 20, 2017 the prospectus supplement No. 39 dated November 6, 2017, the prospectus supplement No. 40 dated November 17, 2017, each filed pursuant to Rule 424(b)(3) by the Company (collectively, the "Prospectus"). Pursuant to the Prospectus, this prospectus supplement relates to the continuous offering of 4,000,000 shares of common stock underlying our Class A warrants. Each warrant was a component of a unit that we issued in our initial public offering, which closed on October 20, 2015. The components of the units began to trade separately on November 13, 2015. Each Class A warrant became exercisable on the date when the units detached and the components began to trade separately and will expire on October 20, 2018, or earlier upon redemption.

This prospectus supplement incorporates into our Prospectus the information contained in our attached Current Report on Form 8-K, which was filed with the Securities and Exchange Commission on November 17, 2017.

You should read this prospectus supplement in conjunction with the Prospectus, including any supplements and amendments thereto. This prospectus supplement is qualified by reference to the Prospectus except to the extent that the information in this prospectus supplement supersedes the information contained in the Prospectus.

This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, including any supplements and amendments thereto.

Our common stock, the Class A warrants are traded on The NASDAQ Capital Market under the symbols "CERC," and "CERCW," respectively.

AN INVESTMENT IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. SEE THE SECTION ENTITLED "RISK FACTORS" BEGINNING ON PAGE 16 OF THE PROSPECTUS

FOR A DISCUSSION OF INFORMATION THAT SHOULD BE CAREFULLY CONSIDERED IN CONNECTION WITH AN INVESTMENT IN OUR SECURITIES

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this Prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is February 12, 2018

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

Date of Report (Date of earliest event reported) **February 12, 2018**

CERECOR INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation)

001-37590	**45-0705648**
(Commission File Number)	(IRS Employer Identification No.)

400 E. Pratt Street, Suite 606, Baltimore, Maryland 21202
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code **(410) 522-8707**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation 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))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging Growth 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. ☒

Item 1.01 Entry into a Material Definitive Agreement.

On February 12, 2018, Cerecor Inc. (the "***Company***") entered into an Asset Purchase Agreement (the "***Purchase Agreement***") with Avadel US Holdings, Inc. ("Avadel"), Avadel Pharmaceuticals (USA), Inc., Avadel Pediatrics, Inc., Avadel Therapeutics, LLC and Avadel Pharmaceuticals PLC (collectively, the "***Sellers***") to purchase and acquire all rights in the Sellers' pediatric products. The Company will pay a nominal cash payment for the acquired assets, and assume certain of Avadel's financial obligations to Deerfield CSF, LLC, which include a $15 million loan due in January 2021 and certain royalty obligations through February 2026. The transaction is expected to close in February 2018.

The Purchase Agreement includes customary representations, warranties and covenants of the Company and the Sellers, including provisions that require the Company to indemnify the Sellers for losses resulting from any breach by the Company of its representations, warranties or covenants in the Purchase Agreement.

The foregoing description of the Purchase Agreement is qualified in its entirety by reference to the complete text of the Purchase Agreement, a copy of which will be filed as an Exhibit to the Company's Quarterly Report on Form 10-Q for the period ending on March 31, 2018.

In connection with entering into the Purchase Agreement, at closing the Company will enter into a licensing and development agreement with Flamel Ireland Limited ("Avadel Ireland"), a subsidiary of Avadel (the "Development Agreement"), under which Avadel Ireland will develop and provide the Company with four stable product formulations utilizing its proprietary LiquiTime® and Micropump® technology. The Company will reimburse Avadel Ireland for any costs associated with the development of these products in excess of $1.0 million in the aggregate. Upon transfer of the product formulations, the Company will assume all remaining development and regulatory costs. Once approved and marketed, the Company will pay Avadel Ireland royalties on net sales of such products.

The Development Agreement will include customary representations, warranties and covenants of the Company and Avadel Ireland, including provisions that require the Company to indemnify Avadel Ireland for losses resulting from any breach by the Company of the Development Agreement.

The foregoing description of the Development Agreement is qualified in its entirety by reference to the complete text of the Development Agreement, a copy of which will be filed as an Exhibit to the Company's Quarterly Report on Form 10-Q for the period ending on March 31, 2018.

The Purchase Agreement and the Development Agreement contain representations and warranties that the parties made to, and are solely for the benefit of, each other. Investors and security holders should not rely on the representations and warranties as characterizations of the actual state of facts, since they were made only as of the date of the Purchase Agreement and the Development Agreement. Moreover, information concerning the subject matter of such representations and warranties may change after the date of the Purchase Agreement or the Development Agreement, which subsequent information may or may not be fully reflected in public disclosures.

Item 7.01. Regulation FD Disclosure.

On February 12, 2018, the Company issued press releases announcing entering into the Purchase Agreement described above in Item 1.01. A copy of the press release is furnished herewith as Exhibits 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

The information contained in this Item 7.01 of this Current Report on Form 8-K (including Exhibits 99.1) is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities of that Section. The information in this Current Report shall not be deemed incorporated by reference in any filing under the Securities Act or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press release, dated February 12, 2018, entitled "Cerecor to Acquire Avadel Pharmaceuticals' Pediatric Assets."

SIGNATURE

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.

CERECOR INC.

Date: February 12, 2018

/s/ Mariam Morris
Mariam Morris
Chief Financial Officer

Exhibit 99.1

Cerecor to Acquire Avadel Pharmaceuticals' Pediatric Assets

Transaction is immediately accretive to revenue and earnings

Expands Cerecor's pipeline via an exclusive license to use Avadel's LiquiTime® and Micropump® technology in four pediatric drug candidates

BALTIMORE, MD — February 12, 2018 — Cerecor, Inc. (NASDAQ: CERC) today announced it has entered into definitive agreements with Avadel U.S. Holdings, Inc., and certain of its subsidiaries, to purchase and acquire all rights to Avadel's marketed pediatric products. The acquired products consist of Karbinal™ ER, AcipHex® Sprinkle™, Cefaclor for Oral Suspension, and Flexichamber™. Additionally, Avadel Ireland will develop and provide Cerecor with four stable product formulations of Cerecor's choosing utilizing its proprietary LiquiTime™ and Micropump® technology. Three of these development projects are already underway. The acquisition of these assets aligns with Cerecor's strategy to become a leading U.S. pediatric pharmaceutical company.

"The acquisition of Avadel's pediatric assets solidifies our base business while providing multiple avenues for future growth," said Steven Boyd, a director of Cerecor and Chief Investment Officer of its majority stockholder, Armistice Capital, LLC. "Importantly, our newfound scale should enable non-dilutive investment in our broad, innovative pipeline creating value for both patients and stockholders."

"This is a significant step forward for Cerecor. With an expanded commercial footprint and diversified pediatric product portfolio, we expect meaningful revenue and cost synergies," said Robert Moscato, President and Chief Operating Officer of Cerecor. "I welcome the team from Avadel and look forward to working together to improve the lives of children."

Under the terms of the asset purchase agreement, Cerecor will purchase Avadel's interest in the Avadel pediatric assets for nominal cash payment and will assume certain of Avadel's financial obligations to Deerfield CSF, LLC, which include a $15 million loan due in January 2021 and certain royalty obligations through February 2026. Trailing twelve-month net sales for the acquired products were approximately $8 million.

Under the terms of the licensing and development agreement, Avadel will develop and provide Cerecor with four stable product formulations utilizing its LiquiTime™ and Micropump® platforms. Cerecor will

reimburse Avadel for any costs associated with the development of these products in excess of $1.0 million in aggregate. Upon transfer of the product formulations, Cerecor will assume all remaining development and regulatory costs. Once approved and marketed, Cerecor will pay Avadel quarterly royalties on net sales of such products.

The transaction is anticipated to close before February 28, 2018.

About Cerecor

Cerecor is a biopharmaceutical company focused on developing innovative therapies that make a difference in the lives of patients. The Company's pipeline is led by CERC-301, which Cerecor currently intends to explore as a novel treatment for orphan neurological indications. Cerecor is also developing two pre-clinical stage compounds, CERC-611 and CERC-406. The Company's R&D efforts are supported by revenues from its franchise of commercial medications led by Poly-Vi-Flor® (multivitamin and fluoride supplement tablet, chewable) and Tri-Vi-Flor® (multivitamin and fluoride supplement suspension/drops).

For more information about Cerecor, please visit www.cerecor.com.

Forward-Looking Statements

This press release may include forward-looking statements made pursuant to the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts. Such forward-looking statements are subject to significant risks and uncertainties that are subject to change based on various factors (many of which are beyond Cerecor's control), which could cause actual results to differ from the forward-looking statements. Such statements may include, without limitation, statements with respect to Cerecor's plans, objectives, projections, expectations and intentions and other statements identified by words such as "projects," "may," "will," "could," "would," "should," "continue," "seeks," "aims," "predicts," "believes," "expects," "anticipates," "estimates," "intends," "plans," "potential," or similar expressions (including their use in the negative), or by discussions of future matters such as: the development of product candidates or products, potential attributes and benefits of product candidates, the expansion of Cerecor's drug portfolio, Cerecor's ability to identify new indications for its current portfolio, and new product candidates that could be in-licensed, and other statements that are not historical. These statements are based upon the current beliefs and expectations of Cerecor's management but are subject to significant risks and uncertainties, including: risks associated with acquisitions, including the need to quickly and successfully integrate acquired assets and personnel; drug development costs, timing and other risks; Cerecor's cash position and the potential need for it to raise additional capital; reliance on key personnel; and those other risks detailed in Cerecor's filings with the Securities and Exchange Commission. Actual results may differ from those set forth in the forward-looking statements. Except as required by applicable law, Cerecor expressly disclaims any obligations or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in Cerecor's expectations with respect thereto or any change in events, conditions or circumstances on which any statement is based.

For media and investor inquiries
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