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): November 12, 2023

Verve Therapeutics, Inc.
(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-40489**	**82-4800132**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

201 Brookline Avenue, Suite 601 **Boston, Massachusetts** **(Address of Principal Executive Offices)**	**02215** **(Zip Code)**

Registrant's Telephone Number, Including Area Code: (617) 603-0070

Not applicable
(Former Name or Former Address, if Changed Since Last Report)

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 (see General Instruction A.2. below):

☐ 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))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common stock, $0.001 par value per share	VERV	Nasdaq Global Select Market

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 8.01 Other Events.

On November 12, 2023, Verve Therapeutics, Inc. (the "Company") presented interim data from the Company's ongoing heart-1 Phase 1b clinical trial of VERVE-101 at the American Heart Association's ("AHA") Scientific Sessions 2023 in Philadelphia, Pennsylvania, and at an investor webcast event following the AHA presentation. VERVE-101 is an investigational, *in vivo* base editing medicine designed to be a single-course treatment that inactivates the *PCSK9* gene in the liver to durably lower blood low-density lipoprotein cholesterol ("LDL-C"). heart-1 is an open-label, Phase 1b clinical trial in patients living with heterozygous familial hypercholesterolemia, established atherosclerotic cardiovascular disease ("ASCVD") and uncontrolled hypercholesterolemia. The trial is designed to evaluate the safety and tolerability of VERVE-101, with additional analyses for pharmacokinetics and pharmacodynamic reductions in blood PCSK9 protein and LDL-C. Single doses of 0.1 mg/kg (n=3), 0.3 mg/kg (n=3), 0.45 mg/kg (n=3), and 0.6 mg/kg (n=1) of VERVE-101 were administered via intravenous infusion. Initial safety data reported were from all ten patients enrolled as of a data cut-off date of October 16, 2023. One patient who received a 0.45 mg/kg dose had not reached day 28 as of the data cut-off date and was not included in the efficacy analysis.

Patients included in both the safety and efficacy analyses had a high burden of coronary artery disease. Nine patients had prior coronary revascularizations with either coronary artery bypass grafting or coronary stenting procedures and four had prior myocardial infarctions. With a mean screening LDL-C of 193 mg/dl, none of the patients were at LDL-C goal on maximally tolerated oral lipid-lowering therapy.

Following a single infusion of VERVE-101, dose-dependent reductions in pharmacodynamic measures of blood PCSK9 protein levels and LDL-C, a validated measure of clinical efficacy for this patient population, were observed one month after treatment. In the interim dataset, six patients were treated at sub-therapeutic doses (0.1 mg/kg and 0.3 mg/kg) and three patients were treated at potentially therapeutic doses (0.45 mg/kg and 0.6 mg/kg). The two patients treated with 0.45 mg/kg of VERVE-101 had a time-averaged blood PCSK9 protein reduction of 59% and 84% and a time-averaged LDL-C reduction of 39% and 48%. The patient treated with 0.6 mg/kg of VERVE-101 had a time-averaged blood PCSK9 protein reduction of 47% and a time-averaged LDL-C reduction of 55%. In this single participant in the highest dose cohort, the 55% reduction in LDL-C was durable out to 180 days, with follow-up ongoing. Blood PCSK9 protein and LDL-C reductions were quantified as percent change from baseline using the time-weighted average from day 28 through last available follow-up.

The safety profile observed in the heart-1 clinical trial supports continued development of VERVE-101, and the adverse events were consistent with the severe, advanced ASCVD patient population enrolled. VERVE-101 was well-tolerated in the two lower dose cohorts, with no treatment-related adverse events observed. In the two higher dose cohorts, treatment-related adverse events were observed, including transient, mild or moderate infusion reactions and transient, asymptomatic increases in liver transaminases with mean bilirubin levels below the upper limit of normal. The increase in liver transaminases in the patient dosed in the 0.6 mg/kg cohort was classified as a Grade 3 event. All infusion reactions and liver transaminase elevations resolved without clinical sequelae. Two patients experienced serious adverse events, which were each cardiovascular events in the context of severe underlying ASCVD. One patient dosed in the 0.3 mg/kg cohort had a fatal cardiac arrest approximately five weeks after treatment due to underlying ischemic heart disease, which was determined by the investigator and independent data and safety monitoring board ("DSMB") to be unrelated to treatment. One patient dosed in the 0.45 mg/kg cohort experienced a myocardial infarction (Grade 3) the day after treatment. The event was considered potentially related to treatment due to the proximity to dosing. The event occurred in the setting of unstable chest pain symptoms prior to dosing that were unreported to investigators. Coronary angiography taken after the event showed critical left main equivalent coronary artery disease. The same patient also experienced non-sustained ventricular tachycardia (Grade 2) more than four weeks after dosing, which was determined to be unrelated to treatment. All safety events were reviewed with the independent DSMB who recommended continuation of trial enrollment with no protocol changes required.

The heart-1 trial is enrolling patients in the 0.45 mg/kg and 0.6 mg/kg cohorts in the United Kingdom and New Zealand. With the recent clearance of the investigational new drug application by the FDA for VERVE-101, the Company plans to activate and open U.S. sites. In 2024, the Company plans to select a single dose from the dose escalation phase, initiate an expansion cohort, and complete this expansion cohort of the heart-1 trial. In the first half of 2024, the Company plans to initiate a Phase 1 clinical trial of VERVE-102, subject to regulatory clearance. VERVE-102 is an *in vivo* base editing medicine that aims to inactivate the *PCSK9* gene in a similar way to VERVE-101. VERVE-101 and VERVE-102 share an identical guide RNA targeting *PCSK9* as well as similar messenger RNA expressing an adenine base editor; however, VERVE-102 is delivered using the Company's proprietary GalNAc-LNP delivery technology. In a preclinical study of VERVE-102 in non-human primates, a durable time-averaged mean LDL-C reduction of 62% was sustained up to six

months following single dose administration at 3 mg/kg (n=4). Following completion of the heart-1 trial and the VERVE-102 trial, the Company plans to initiate a randomized, placebo-controlled Phase 2 clinical trial of either VERVE-101 or VERVE-102 in 2025.

Cautionary Note Regarding Forward-Looking Statements

This Current Report on Form 8-K (the "Report") contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve substantial risks and uncertainties, including statements regarding the safety, tolerability and potential benefits of VERVE-101; the Company's timing and ability to enroll patients in its ongoing heart-1 trial and activate clinical trial sites in the U.S.; the expected timing of the expansion cohort of VERVE-101; the receipt of regulatory clearances and timing of initiating the Phase 1 clinical trial of VERVE-102 and Phase 2 clinical trial for the Company's *PCSK9* program; and the Company's strategic plans and prospects. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forward-looking statements are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in, or implied by, such forward-looking statements. These risks and uncertainties include, but are not limited to, risks associated with the Company's limited operating history; the Company's ability to timely submit and receive approvals of regulatory applications for its product candidates; advance its product candidates in clinical trials; initiate, enroll and complete its ongoing and future clinical trials on the timeline expected or at all; correctly estimate the potential patient population and/or market for the Company's product candidates; replicate in clinical trials positive results found in preclinical studies and/or earlier-stage clinical trials of VERVE-101, VERVE-102 and VERVE-201; advance the development of its product candidates under the timelines it anticipates in current and future clinical trials; obtain, maintain or protect intellectual property rights related to its product candidates; manage expenses; raise the substantial additional capital needed to achieve its business objectives; and other risks, uncertainties and other important factors that are described in the Company's most recent filings with the Securities and Exchange Commission and in other filings that the Company makes with the Securities and Exchange Commission in the future. In addition, the forward-looking statements included in this Report represent the Company's views as of the date hereof and should not be relied upon as representing the Company's views as of any date subsequent to the date hereof. The Company anticipates that subsequent events and developments will cause the Company's views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so.

SIGNATURES

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

VERVE THERAPEUTICS, INC.

Date: November 13, 2023

By: /s/ Allison Dorval
Name: Allison Dorval
Title: Chief Financial Officer