Filed Pursuant to Rule 424(b)(3) Registration No. 333-264626

PROSPECTUS SUPPLEMENT NO. 2 (to Prospectus dated May 11, 2022)



Sema4 Holdings Corp. 160,864,198 Shares of Common Stock

This prospectus supplement supplements the prospectus dated May 11, 2022 (the "Prospectus"), which forms a part of our registration statement on Form S-1 (No. 333-264626). This prospectus supplement is being filed to update and supplement the information in the Prospectus with the information contained in Items 5.02 and 9.01 and the related exhibits from our Current Report on Form 8-K, filed with the Securities and Exchange Commission (the "SEC") on June 14, 2022. Accordingly, we have attached Items 5.02 and 9.01 and the related exhibits from the Current Report on Form 8-K to this prospectus supplement.

The Prospectus and this prospectus supplement relate to the offer and sale from time to time by the selling stockholders named in this prospectus (the "Selling Stockholders") of up to 160,864,198 shares of our Class A common stock, par value \$0.0001 per share ("Class A common stock"), consisting of (i) up to 80,000,000 shares of our Class A common stock (the "Stock Consideration Shares") issued to OPKO Health, Inc. ("OPKO") as a portion of the consideration for the Acquisition (as defined below), (ii) up to 30,864,198 shares of our Class A common stock (the "Milestone Shares") that may be issuable to OPKO in connection with the achievement of certain revenue-based milestones for each of the fiscal years ending December 31, 2022 and December 31, 2023 and (iii) up to 50,000,000 shares of our Class A common stock (the "PIPE Shares") issued in a private placement pursuant to subscription agreements each entered into on January 14, 2022 (the "PIPE Investment").

On April 29, 2022, we consummated the transactions contemplated by that certain Agreement and Plan of Merger, dated as of January 14, 2022 (as amended, the "Merger Agreement"), by and among us and our wholly-owned subsidiaries, Orion Merger Sub I, Inc. ("Merger Sub I") and Orion Merger Sub II, LLC ("Merger Sub II" and, together with Merger Sub I, "Merger Subs"), and GeneDx, Inc., a New Jersey corporation and wholly-owned subsidiary of OPKO ("GeneDx"), GeneDx Holding 2, Inc., which held 100% of GeneDx at the Effective Time (as defined below) ("Holdco2"), and OPKO. Pursuant to the terms of the Merger Agreement, we acquired GeneDx through the merger of Merger Sub I with and into Holdco2 (the "First Merger"), with Holdco2 as the surviving corporation in the First Merger, Immediately after the consummation of the First Merger, as part of the same overall transaction, Holdco2, as the surviving corporation in the First Merger, merged with and into Merger Sub II (the "Second Merger" and, together with the First Merger, the "Mergers"), with Merger Sub II as the surviving company. After giving effect to the Mergers and the other transactions contemplated by the Merger Agreement, GeneDx was converted into a Delaware limited liability company and became our wholly-owned indirect subsidiary. At the closing of the Acquisition, we paid OPKO \$150 million of Cash Consideration (as defined herein) and issued to OPKO the Stock Consideration Shares. Concurrently with the closing, we also consummated the PIPE Investment, issuing the PIPE Shares for aggregate gross proceeds of \$200 million. We have filed the registration rights obligations we have to the Selling Stockholders in respect of the Stock Consideration Shares, the Milestone Shares and the PIPE Shares.

Our common stock and public warrants are listed on the Nasdaq Global Select Market (the "Nasdaq") under the symbol "SMFR" and "SMFRW", respectively. On June 13, 2022, the last reported sales price of our common stock was \$1.45 per share and the last reported sales price of our public warrants was \$0.36 per warrant.

This prospectus supplement updates and supplements the information in the Prospectus and is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. This prospectus supplement should be read in conjunction with the Prospectus and if there is any inconsistency between the information in the Prospectus and this prospectus supplement, you should rely on the information in this prospectus supplement.

We are an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933, as amended, and, as such, have elected to comply with certain reduced disclosure and regulatory requirements.

Investing in our securities involves risks. See the section entitled "Risk Factors" beginning on page 8 of the Prospectus to read about factors you should consider before buying 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 June 14, 2022

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): June 14, 2022 (June 10, 2022)

Sema4 Holdings Corp.

(Exact name of registrant as specified in its charter)

| Delaware | 001-39482 | 85-1966622 |
|--|--------------------------|--------------------------------------|
| (State or other jurisdiction of incorporation or organization) | (Commission File Number) | (I.R.S. Employer Identification No.) |
| | | |

333 Ludlow Street, North Tower, 8th Floor

Stamford, Connecticut

(Address of Principal Executive Offices)

(800) 298-6470

06902

(Zip Code)

Registrant's telephone number, including area code (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 |
|--|-------------------|---|
| Class A common stock, par value \$0.0001 per share | SMFR | The Nasdaq Global Select Market |
| Warrants to purchase one share of Class A common stock, each at an exercise price of \$11.50 per share | SMFRW | The 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 \boxtimes

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. \Box

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(b) Departure of Directors or Certain Officers.

On June 14, 2022, Sema4 Holdings Corp. ("Sema4 Holdings" or the "Company") announced that, pursuant to a CFO transition plan adopted June 10, 2022 (the "Transition Plan"), its Chief Financial Officer, Isaac Ro, will leave the Company to pursue other career opportunities. Mr. Ro's last day of employment will be August 9, 2022. Pursuant to his employment agreement with the Company, Mr. Ro will be entitled to nine months of salary continuation payments and twelve months of COBRA continuation benefits, subject to his execution of a release of claims. The Company also entered into a six-month consulting agreement with Mr. Ro (the "Consulting Agreement"), pursuant to which Mr. Ro will provide advisory services to the Company following his last day of employment in exchange for continued vesting of his equity-based incentive compensation awards, as well as an additional six-months of partial accelerated vesting at the conclusion of such six-month consulting period, subject to Mr. Ro's reaffirmation of his release of claims. The foregoing description of the Consulting Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Consulting Agreement, a copy of which is attached hereto as Exhibit 10.1 and is incorporated herein by reference.

(c) Appointment of Certain Officers.

Pursuant to the Transition Plan, Richard Miao, the Company's current Senior Vice President of Financial Planning & Analysis and Treasurer, was promoted to Deputy Chief Financial Officer and appointed to serve as the Interim Chief Financial Officer, effective June 13, 2022. In this role, Mr. Miao will assume the responsibilities of Principal Financial Officer while the Company conducts a search to fill the Chief Financial Officer position on a permanent basis.

Mr. Miao has served as Senior Vice President of Financial Planning & Analysis and Treasurer of the Company since May 2021. Prior to joining the Company, Mr. Miao served as Senior Vice President of Corporate Finance and Treasurer at Endeavor Group Holdings, a global talent and media agency, from October 2017 to May 2021. Prior to that role, Mr. Miao served as Senior Vice President of Corporate Finance at William Morris Endeavor, a global talent and media agency, from December 2014 to October 2017. Mr. Miao received a B.A. in Economics from Northwestern University and an M.B.A from the NYU Stern School of Business.

In connection with the appointment, the Compensation Committee of the Board of Directors of the Company approved (i) a salary increase for Mr. Miao for a total annual base salary of \$360,000, (ii) target annual bonus of 50% of annual base salary, and (iii) a \$100,000 cash retention bonus payable three months following the start date of the Company's permanent Chief Financial Officer.

Mr. Miao has no family relationships that require disclosure pursuant to Item 401(d) of Regulation S-K and has not been involved in any transactions that require disclosure pursuant to Item 404(a) of Regulation S-K. There is no arrangement or understanding between Mr. Miao and any other person pursuant to which Mr. Miao was named Interim Chief Financial Officer and Deputy Chief Financial Officer of the Company.

(e) Compensatory Arrangements with Certain Officers.

As previously announced, on April 29, 2022, the Company completed its acquisition of GeneDx, Inc. and Dr. Eric Schadt was appointed President and Chief Research & Development Officer of the Company and ceased serving as the Chief Executive Officer of the Company (the "Appointment").

On June 14, 2022, the Company and Dr. Eric Schadt entered into an amendment (the "Amendment") to Dr. Schadt's amended and restated employment agreement, dated as of July 21, 2021 (the "Employment Agreement"), in order to extend the period during which Dr. Schadt may provide the Company with written notice of "Good Reason" (within the meaning of the Employment Agreement) as a result of the Appointment through April 28, 2023.

The foregoing description of the Amendment does not purport to be complete and is qualified in its entirety by reference to the full text of the Amendment, a copy of which is attached as Exhibit 10.2 and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Date:

June 14, 2022

| <u>Exhibit</u> | |
|----------------|--|
| Number | Description |
| 10.1 | Amendment No.1 to the Amended and Restated Employment of Agreement of Eric Schadt, dated June 14, 2022 |
| 10.2 | Consulting Agreement with Isaac Ro, dated as of June 14, 2022 |
| 99.1 | Press Release, dated June 14, 2022, regarding the Registrant's Chief Financial Officer Transition Plan |
| 104 | Cover Page Interactive Data File (embedded within the Inline XBRL Document) |

SIGNATURES

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.

Sema4 Holdings Corp.

| By: | /s/ Katherine Stueland |
|--------|-------------------------|
| Name: | Katherine Stueland |
| Title: | Chief Executive Officer |