

6,974,248 Shares of Common Stock



This prospectus supplement is being filed to update and supplement the information contained in the prospectus dated April 12, 2024 (as supplemented from time to time, the "Prospectus"), which forms a part of our registration statement on Form S-1 (No. 333-278566), with the information contained in our Current Report on Form 8-K filed with the Securities and Exchange Commission on July 8, 2024 (the "Current Report"). Accordingly, we have attached the Current Report to this prospectus supplement. This prospectus relates to the offer and resale from time to time of up to 6,974,248 shares (the "Shares") of common stock, par value \$0.0001 per share ("Common Stock"), of Lexeo Therapeutics, Inc., a Delaware corporation (the "Company"), by the selling stockholders identified in this prospectus, including their transferees, pledgees or donees or their respective successors (the "Selling Stockholders"). The Shares consist of (i) 6,278,905 shares which were issued and sold to the Selling Stockholders on March 13, 2024 (the "Closing Date") in a private placement (the "Private Placement") pursuant to a common stock purchase agreement among us and such Selling Stockholders dated March 11, 2024 (the "Purchase Agreement") and (ii) 695,343 shares of Common Stock held by the Selling Stockholders as of March 11, 2024. Concurrently with the Purchase Agreement, we entered into a registration rights agreement (the "Registration Rights Agreement") with the Selling Stockholders, and we are registering the Shares being offered hereunder pursuant to such registration rights agreement on behalf of the Selling Stockholders, to be offered and sold by them from time to time.

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.

Our Common Stock is listed on The Nasdaq Global Market ("Nasdaq") under the symbol "LXEO". On July 5, 2024, the last quoted sale price for our Common Stock as reported on Nasdaq was \$15.49 per share.

We are an "emerging growth company" and a "smaller reporting company" as defined under the federal securities laws, and, as such, may elect to comply with certain reduced public company reporting requirements for this prospectus and for future filings.

Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of the risks of investing in our securities in "Risk Factors" beginning on page 13 of the Prospectus.

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.

Prospectus supplement dated July 8, 2024

**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): July 08, 2024

Lexeo Therapeutics, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-41855
(Commission File Number)

85-4012572
(IRS Employer
Identification No.)

345 Park Avenue South, Floor 6
New York, New York
(Address of Principal Executive Offices)

10010
(Zip Code)

Registrant's Telephone Number, Including Area Code: 212 547-9879

N/A

(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:

- 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, \$0.0001 par value per share	LXEO	Nasdaq Global 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 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(d) Appointment of New Director

On July 5, 2024 (the “Appointment Date”), Tim Van Hauwermeiren was appointed to the board of directors (the “Board”) of Lexeo Therapeutics, Inc. (the “Company”). Mr. Van Hauwermeiren will serve as a director with a term of office expiring at the Company’s 2027 Annual Meeting of Stockholders.

Mr. Van Hauwermeiren, age 53, is the co-founder and has served as Chief Executive Officer of argenx SE, a biopharmaceutical company, since July 2008, and has served as a member of its Board of Directors since July 2017. Mr. Van Hauwermeiren has also served on the Board of Directors of iTeos Therapeutics, Inc. since 2018 and previously served on the Board of Directors of RayzeBio, Inc. from 2023 until its acquisition by Bristol Myers Squibb in 2024. Mr. Van Hauwermeiren holds a B.Sc. and M.Sc. in bioengineering from Ghent University (Belgium) and an Executive MBA from The Vlerick School of Management.

In accordance with the Company’s Non-Employee Director Compensation Policy (the “Director Compensation Policy”), Mr. Van Hauwermeiren is eligible to participate in the Company’s standard compensation arrangements for non-employee directors which consists of cash and equity compensation for service on the Board. Pursuant to the Director Compensation Policy, Mr. Van Hauwermeiren is entitled to \$40,000 in annual cash compensation for service on the Board with additional cash compensation payable for committee service. In addition, pursuant to the Director Compensation Policy, Mr. Van Hauwermeiren was granted an initial stock option award for 36,000 shares on the Appointment Date, and is expected to be granted additional equity awards consistent with the terms of the Director Compensation Policy, including an annual option to purchase 18,000 shares, effective on the date of each annual meeting of the stockholders.

There are no arrangements or understandings between Mr. Van Hauwermeiren and any other persons pursuant to which Mr. Van Hauwermeiren was appointed a director of the Company, and there are no family relationships between Mr. Van Hauwermeiren and any director or executive officer of the Company.

The Company has entered into its standard form of indemnification agreement with Mr. Van Hauwermeiren, a copy of which is filed as Exhibit 10.4 to the Company’s Registration Statement on Form S-1 (File No. 333-274777) on September 29, 2023. Other than the indemnification agreement, Mr. Van Hauwermeiren has no direct or indirect material interest in any transaction required to be disclosed pursuant to Item 404(a) of Regulation S-K promulgated under the Securities Exchange Act of 1934, as amended, nor are any such transactions currently proposed.

Item 8.01 Other Events.

On July 8, 2024, the Company issued a press release announcing Mr. Van Hauwermeiren’s appointment to the Board. A copy of the press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated by reference herein.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit Number	Description
99.1	Press Release
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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.

Lexeo Therapeutics, Inc.

Date: July 8, 2024

By: /s/ R. Nolan Townsend

R. Nolan Townsend, Chief Executive Officer



Lexeo Therapeutics Appoints Tim Van Hauwermeiren to its Board of Directors

NEW YORK – July 8, 2024 (GLOBE NEWSWIRE) – Lexeo Therapeutics, Inc. (Nasdaq: LXEO), a clinical stage genetic medicine company, today announced the appointment of Tim Van Hauwermeiren, co-founder and Chief Executive Officer of argenx SE, as an independent, non-executive director to its Board of Directors. Mr. Van Hauwermeiren is a seasoned biotech executive with over two decades of experience in both general management and business development across the life sciences and consumer goods industries.

“Tim is a highly accomplished life-sciences entrepreneur who has built one of Europe’s most successful biotech companies, and I am thrilled to welcome him to our Board of Directors,” said R. Nolan Townsend, Chief Executive Officer of Lexeo Therapeutics. “Tim’s deep and relevant experience in company building from clinical to commercial stage will be an invaluable asset to Lexeo as we embark on our next phase of growth and progress our pipeline into later stages of clinical and commercial development.”

Mr. Van Hauwermeiren is co-founder, CEO and a Board Member of argenx, a global immunology company valued at almost \$25 billion focused on severe autoimmune diseases. During his 15-year tenure, he has overseen the development and launch of the company’s first commercial product, efgartigimod, for the treatment of multiple severe autoimmune diseases, and he has expanded the company’s footprint across Europe, the U.S. and Asia. Additionally during his time at argenx, Mr. Van Hauwermeiren has secured more than \$4 billion in funding through equity raises and business development transactions with major pharmaceutical companies. Prior to argenx, Mr. Van Hauwermeiren held roles with increasing levels of responsibility at Ablynx and Procter & Gamble.

“I am honored to join Lexeo’s Board at this important stage in the company’s growth,” said Mr. Van Hauwermeiren. “I am impressed by the company’s innovative science, pipeline and bold thinking, and I look forward to sharing my experiences and learnings with the management team as we work to bring life-changing therapies to patients with devastating genetic diseases.”

Mr. Van Hauwermeiren also serves on the Board of Directors of iTeos Pharmaceuticals, and previously served on the Board of Directors of RayzeBio prior to the company’s acquisition by Bristol Myers Squibb. He holds a B.Sc. and M.Sc. in bioengineering from Ghent University and an Executive MBA from The Vlerick School of Management.

About Lexeo Therapeutics

Lexeo Therapeutics is a New York City-based, clinical stage genetic medicine company dedicated to transforming healthcare by applying pioneering science to fundamentally change how genetically defined cardiovascular diseases and APOE4-associated Alzheimer’s disease are treated. Using a stepwise development approach, Lexeo is leveraging early proof-of-concept functional and biomarker data to advance a pipeline of cardiovascular and APOE4-associated Alzheimer’s disease programs.

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