UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 **REGISTRATION STATEMENT**

UNDER THE SECURITIES ACT OF 1933

	Calcille	edica, Inc.				
	(Exact name of registra	ant as specified in its charter)				
Delav (State or other j incorporation or	urisdiction of	45-2120079 (I.R.S. Employer Identification No.)				
505 Coast Boulevar La Jolla, C (Address of Principal	alifornia	92037 (Zip Code)				
		y Incentive Plan es of the plans)				
(Name	Chief Ex 505 Coast Boule La Jolla, ((858	I Leheny, Ph.D. ecutive Officer evard South, Suite 307 California 92037) 952-5500 one number, including area code, of agent for service)				
	Co	opies to:				
Thomas A. Coll Carlos Ramirez Cooley LLP 10265 Science Center Drive San Diego, California 92121 (858) 550-6000		John M. Dunn General Counsel 505 Coast Boulevard South, Suite 307 La Jolla, California 92037 (858) 952-5500				
	nitions of "large accelerated filer,"	an accelerated filer, a non-accelerated filer, a smaller reporting company or an "accelerated filer," "smaller reporting company," and "emerging growth				
Large accelerated filer □		Accelerated Filer				
Non-accelerated filer 区		Smaller reporting company				
		Emerging growth company				
If an emerging growth company, indica new or revised financial accounting star		has elected not to use the extended transition period for complying with any on $7(a)(2)(B)$ of the Securities Act. \Box				

REGISTRATION OF ADDITIONAL SHARES PURSUANT TO GENERAL INSTRUCTION E

This Registration Statement on Form S-8 is being filed by CalciMedica, Inc. (the "*Registrant*") with the Securities and Exchange Commission (the "*SEC*") for the purpose of increasing the number of securities of the same class as other securities for which Registration Statements on Form S-8 relating to the same employee benefit plan are effective. The Registrant previously registered its shares of common stock, par value \$0.0001 per share, for issuance under the Registrant's 2023 Equity Incentive Plan under the Registrant's Registration Statements on Form S-8 filed with the SEC on May 12, 2023 (File No. 333-271898) and March 28, 2024 (File No. 333-278336) (collectively, the "*Prior Registration Statements*"). Pursuant to General Instruction E to Form S-8, this Registration Statement hereby incorporates by reference the contents of the Prior Registration Statements.

ITEM 8. EXHIBITS.

Exhibit <u>Number</u>	Description
4.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 22, 2023).
4.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 22, 2023).
4.3	Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Registrant's Quarterly Report on Form 10-Q, filed with the SEC on November 12, 2020).
5.1	Opinion of Cooley LLP.
23.1	Consent of Independent Registered Public Accounting Firm.
23.2	Consent of Cooley LLP. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page hereto.
99.1	CalciMedica, Inc. 2023 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed with the SEC on August 27, 2024).
99.2	Form of Option Grant Notice and Option Agreement under CalciMedica, Inc. 2023 Equity Incentive Plan (incorporated by reference to Exhibit 10.7 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 22, 2023).
99.3	Forms of Restricted Stock Unit Grant Notice and Unit Award Agreement under CalciMedica, Inc. 2023 Equity Incentive Plan (incorporated by reference to Exhibit 10.8 to the Registrant's Current Report on Form 8-K, filed with the SEC on March 22, 2023).
107	Filing Fee Table.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the La Jolla, State of California, on August 27, 2024.

CALCIMEDICA, INC.

By: /s/ A. Rachel Leheny, Ph.D.

A. Rachel Leheny, Ph.D.
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints A. Rachel Leheny, Ph.D. and Daniel Geffken, and each of them, as true and lawful attorneys-in-fact and agents, with full powers of substitution and resubstitution, for them and in their name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and generally to do all such things in their names and behalf in their capacities as officers and directors to enable CalciMedica, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement on Form S-8 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/S/ A. RACHEL LEHENY, PH.D. A. Rachel Leheny, Ph.D.	Chief Executive Officer and Director (Principal Executive Officer)	August 27, 2024
/S/ DANIEL GEFFKEN Daniel Geffken	Interim Chief Financial Officer (Principal Financial and Accounting Officer)	August 27, 2024
/S/ ROBERT N. WILSON Robert N. Wilson	Chairman	August 27, 2024
/S/ ERIC BJERKHOLT Eric Bjerkholt	Director	August 27, 2024
/S/ FREDERIC GUERARD, PHARM.D. Frederic Guerard, Pharm.D.	Director	August 27, 2024
/S/ FRED MIDDLETON Fred Middleton	Director	August 27, 2024
/S/ ERIC W. ROBERTS Eric W. Roberts	Director	August 27, 2024
/S/ ALLAN SHAW Allan Shaw	Director	August 27, 2024



Carlos Ramirez T: +1 858 550 6157 cramirez@cooley.com

August 27, 2024

CalciMedica, Inc. 505 Coast Boulevard South, Suite 307 La Jolla, CA 92037

Ladies and Gentlemen:

We have acted as counsel to CalciMedica, Inc., a Delaware corporation (the "Company"), in connection with the filing by the Company of a registration statement on Form S-8 (the "Registration Statement") with the Securities and Exchange Commission (the "Commission"), covering the offering of up to 1,500,000 shares (the "Shares") of the Company's Common Stock, \$0.0001 par value per share, issuable pursuant to the Company's 2023 Equity Incentive Plan, as amended (the "2023 Plan").

In connection with this opinion, we have examined and relied upon (i) the Registration Statement and related prospectuses, (ii) the Company's certificate of incorporation and bylaws, each as currently in effect, (iii) the 2023 Plan, and (iv) such other records, documents, certificates, memoranda and instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures; the authenticity of all documents submitted to us as originals; the conformity to originals of all documents submitted to us as copies; the accuracy, completeness and authenticity of certificates of public officials; and the due authorization, execution and delivery of all documents by all persons other than by the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the 2023 Plan, the Registration Statement and related prospectuses, will be validly issued, fully paid and nonassessable (except as to Shares issued pursuant to deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

This opinion is limited to the matters expressly set forth in this letter, and no opinion has been or should be implied, or may be inferred, beyond the matters expressly stated. This opinion speaks only as to law and facts in effect or existing as of the date hereof, and we have no obligation or responsibility to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

We consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Commission thereunder.

Cooley LLP 10265 Science Center Drive San Diego, CA 92121 t: (858) 550-6000 f: (858) 550-6420 cooley.com



August 27, 2024 Page Two

Sincerely,

Cooley LLP

By: /s/ Carlos A. Ramirez
Carlos A. Ramirez

Cooley LLP 10265 Science Center Drive San Diego, CA 92121 t: (858) 550-6000 f: (858) 550-6420 cooley.com

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2023 Equity Incentive Plan of CalciMedica, Inc. of our report dated March 28, 2024, with respect to the consolidated financial statements of CalciMedica, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2023, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

San Diego, California August 27, 2024

Calculation of Filing Fee Table

Form S-8 (Form Type)

CalciMedica, Inc.

(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered ⁽¹⁾	Proposed Maximum Offering Price Per Unit ⁽²⁾	Maximum Aggregate Offering Price ⁽²⁾	Fee Rate	Amount of Registration Fee
Equity	2023 Equity						
	Incentive Plan						
	Common Stock,						
	\$0.0001 par value						
	per share	Other(2)	1,500,000(3)	\$4.03	\$6,045,000.00	.00014760	\$892.24
Total Offering Amounts					\$6,045,000.00		_
Total Fees Previously Paid							_
Total Fee Offsets							_
Net Fee Due							\$892.24

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement on Form S-8 shall also cover any additional shares of common stock, par value \$0.0001 per share ("Common Stock"), of CalciMedica, Inc. (the "Registrant") that become issuable under the Registrant's 2023 Equity Incentive Plan (the "2023 Plan") by reason of any stock dividend, stock split, recapitalization or other similar transaction.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) and 457(h) of the Securities Act using the average of the high and low prices of the Common Stock as reported on the Nasdaq Capital Market on August 20, 2024.
- (3) Represents additional shares of Common Stock authorized for issuance under the 2023 Plan pursuant to an amendment to such plan that was approved by the Registrant's stockholders on August 27, 2024.