SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934

(Amendment No. 2)*

Fractyl Health, Inc.

(Name of Issuer)

Common Stock, $0.00001 par value per share

(Title of Class of Securities)

(CUSIP Number)

09/30/2026

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- ☑ Rule 13d-1(b)
- ☐ Rule 13d-1(c)
- ☐ Rule 13d-1(d)

SCHEDULE 13G

CUSIP No.

1	Names of Reporting Persons Nantahala Capital Management, LLC
2	Check the appropriate box if a member of a Group (see instructions) ☐ (a) ☐ (b)
3	Sec Use Only
4	Citizenship or Place of Organization MASSACHUSETTS

Number of Shares Beneficially Owned by Each Reporting Person With:	5	Sole Voting Power 0.00
	6	Shared Voting Power 938,982.00
	7	Sole Dispositive Power 0.00
	8	Shared Dispositive Power 938,982.00
9		Aggregate Amount Beneficially Owned by Each Reporting Person 938,982.00
10		Check box if the aggregate amount in row (9) excludes certain shares (See Instructions) ☐
11		Percent of class represented by amount in row (9) 6.91 %
12		Type of Reporting Person (See Instructions) IA

SCHEDULE 13G

CUSIP No.

1		Names of Reporting Persons Wilmot B. Harkey
2		Check the appropriate box if a member of a Group (see instructions) ☐ (a) ☐ (b)
3		Sec Use Only
4		Citizenship or Place of Organization UNITED STATES
Number of Shares Beneficially Owned by Each Reporting Person With:	5	Sole Voting Power 0.00
	6	Shared Voting Power 938,982.00
	7	Sole Dispositive Power 0.00
	8	Shared Dispositive Power 938,982.00
9		Aggregate Amount Beneficially Owned by Each Reporting Person 938,982.00
10		Check box if the aggregate amount in row (9) excludes certain shares (See Instructions) ☐

11	Percent of class represented by amount in row (9)	
	6.91 %	
12	Type of Reporting Person (See Instructions)	
	HC	

SCHEDULE 13G

CUSIP No.

1	Names of Reporting Persons	
	Daniel Mack	
2	Check the appropriate box if a member of a Group (see instructions)	
	☐ (a) ☐ (b)	
3	Sec Use Only	
4	Citizenship or Place of Organization	
	UNITED STATES	
Number of Shares Beneficially Owned by Each Reporting Person With:	5	Sole Voting Power
		0.00
	6	Shared Voting Power
		938,982.00
	7	Sole Dispositive Power
		0.00
	8	Shared Dispositive Power
		938,982.00
9	Aggregate Amount Beneficially Owned by Each Reporting Person	
	938,982.00	
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)	
	☐	
11	Percent of class represented by amount in row (9)	
	6.91 %	
12	Type of Reporting Person (See Instructions)	
	HC	

SCHEDULE 13G

Item 1.		
(a)	Name of issuer:	
	Fractyl Health, Inc.	
(b)	Address of issuer's principal executive offices:	
	3 VAN DE GRAAFF DRIVE SUITE 200 BURLINGTON, MASSACHUSETTS, 01803	

Item 2.

Name of person filing:

(a) (1) Nantahala Capital Management, LLC ("Nantahala") (2) Wilmot B. Harkey (3) Daniel Mack (together the "Reporting Persons")

Address or principal business office or, if none, residence:

(b) 130 Main St. 2nd Floor, New Canaan, Connecticut 06840

Citizenship:

(c) (1) Nantahala is a Massachusetts limited liability company. (2) Each of Messrs. Harkey and Mack is a citizen of the United States of America.

Title of class of securities:

(d) Common Stock, $0.00001 par value per share

(e) CUSIP No.:

Item 3. If this statement is filed pursuant to §§ 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

(a) ☐ Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);

(b) ☐ Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);

(c) ☐ Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);

(d) ☐ Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);

(e) ☑ An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);

(f) ☐ An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);

(g) ☑ A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);

(h) ☐ A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);

(i) ☐ A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);

(j) ☐ A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J). If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J),
please specify the type of institution:

(k) ☐ Group, in accordance with Rule 240.13d-1(b)(1)(ii)(K).

Item 4. Ownership

Amount beneficially owned:

(a) As of September 30, 2026, Nantahala may be deemed to be the beneficial owner of 938,982 Shares held by funds and separately managed accounts under its control, and as the managing members of Nantahala, each of Messrs. Harkey and Mack may be deemed to be a beneficial owner of those Shares. The 938,982 Shares Include 317,460 Shares which may be acquired by the Reporting Persons within sixty days through the exercise of convertible securities. All share amounts reported in this Schedule 13G have been adjusted to give effect to the Issuer's 1-for-12 reverse stock split, which became effective on October 5, 2026. Before giving effect to the reverse stock split, the Reporting Persons may have been deemed to beneficially own 11,267,792 Shares as of September 30, 2026, including 3,809,523 Shares which may be acquired within sixty days through the exercise of convertible securities. The reverse stock split did not change the percentage of the class reported in Item 4(b).

Percent of class:

(b) As of September 30, 2026, each of the Reporting Persons may be deemed to be the beneficial owner of the following percentage of the total number of Shares outstanding: (1) Nantahala Capital Management, LLC ("Nantahala") : 6.91% (2) Wilmot B. Harkey: 6.91% (3) Daniel Mack: 6.91% %

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote:

(1) Nantahala Capital Management, LLC ("Nantahala") : 0 Shares. (2) Wilmot B. Harkey: 0 Shares. (3) Daniel Mack: 0 Shares.

(ii) Shared power to vote or to direct the vote:

(1) Nantahala Capital Management, LLC ("Nantahala") : 938,982 Shares. (2) Wilmot B. Harkey: 938,982 Shares. (3) Daniel Mack: 938,982 Shares.

(iii) Sole power to dispose or to direct the disposition of:

(1) Nantahala Capital Management, LLC ("Nantahala") : 0 Shares. (2) Wilmot B. Harkey: 0 Shares. (3) Daniel Mack: 0 Shares.

(iv) Shared power to dispose or to direct the disposition of:

(1) Nantahala Capital Management, LLC ("Nantahala") : 938,982 Shares. (2) Wilmot B. Harkey: 938,982 Shares. (3) Daniel Mack: 938,982 Shares.

Item 5. Ownership of 5 Percent or Less of a Class.

Item 6. Ownership of more than 5 Percent on Behalf of Another Person.

Not Applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

If a parent holding company has filed this schedule, pursuant to Rule 13d-1(b)(ii)(G), so indicate under Item 3(g) and attach an exhibit stating the identity and the Item 3 classification of the relevant subsidiary. If a parent holding company has filed this schedule pursuant to Rule 13d-1(c) or Rule 13d-1(d), attach an exhibit stating the identification of the relevant subsidiary.

Each of Messrs. Harkey and Mack is filing this Schedule 13G as a control person in respect of shares beneficially owned by Nantahala, an investment adviser as described in ss. 240.13d-1(b)(1)(ii)(E). See Item 4(a).

Item 8. Identification and Classification of Members of the Group.

Not Applicable

Item 9. Notice of Dissolution of Group.

Not Applicable

Item 10. Certifications:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under § 240.14a-11.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Nantahala Capital Management, LLC

Signature: /s/ Taki Vasilakis
Name/Title: Taki Vasilakis / Chief Compliance Officer
Date: 11/13/2026

Wilmot B. Harkey

Signature: /s/ Taki Vasilakis, attorney-in-fact for
Name/Title: Wilmot B. Harkey
Date: 11/13/2026

Daniel Mack

Signature: /s/ Taki Vasilakis, attorney-in-fact for
Name/Title: Daniel Mack
Date: 11/13/2026

Exhibit Information

Exhibit 24 - Power of Attorney incorporated by reference to the November 13, 2026 filing. https://www.sec.gov/Archives/edgar/data/1502725/000110465926127115/0001104659-26-127115-index.htm.