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SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934  
(Amendment No. )\*

**SeaStar Medical Holding Corporation**  
(Name of Issuer)

**Common Stock, \$0.0001 par value**  
**Warrants, each warrant exercisable for one share of Common Stock at an exercise price of \$11.50 per share**  
(Title of Class of Securities)

**81256L104**  
(CUSIP Number)

**3513 Brighton Blvd, Suite 410**  
**Denver, CO 80216**  
**(844) 427-8100**  
(Name, Address and Telephone Number of Person Authorized to  
Receive Notices and Communications)

**October 28, 2022**  
(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), Rule 13d-1(f) or Rule 13d-1(g), check the following box.

**Note:** Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See section 240.13d-7 for other parties to whom copies are to be sent.

\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or other subject to the liabilities of that section of Act but shall be subject to all other provisions of the Act (however, see the Notes).

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1	Names of Reporting Person. LMFAO Sponsor, LLC	
2	Check the Appropriate Box if a Member of a Group (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC Use Only	
4	Source of Funds (See Instructions) OO	
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/>	
6	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7	Sole Voting Power 0
	8	Shared Voting Power (see Item 5 below) 8,325,000 (1)
	9	Sole Dispositive Power 0
	10	Shared Dispositive Power (see Item 5 below) 8,325,500 (1)
11	Aggregate Amount Beneficially Owned by Each Reporting Person 8,325,500 (1)	
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares <input type="checkbox"/>	
13	Percent of Class Represented by Amount in Row (11) 45.1%(2)	
14	Type of Reporting Person OO	

- (1) See Item 4. The reported shares consist of (i) 2,587,500 shares of Common Stock and (ii) 5,738,000 shares of Common Stock issuable upon the exercise of private warrants held by the Sponsor (as defined below) that became exercisable upon consummation of the Business Combination ("Private Placement Warrants").
- (2) The aggregate percentage of shares reported owned is based upon 12,699,668 shares of Common Stock outstanding, as reported in the Issuer's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 4, 2022.
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1	Names of Reporting Person. LM Funding America, Inc.	
2	Check the Appropriate Box if a Member of a Group (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC Use Only	
4	Source of Funds (See Instructions) OO	
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/>	
6	Citizenship or Place of Organization United States	
Number of Shares Beneficially Owned by Each Reporting Person With	7	Sole Voting Power 0
	8	Shared Voting Power (see Item 5 below) 8,325,000 (1)
	9	Sole Dispositive Power 0
	10	Shared Dispositive Power (see Item 5 below) 8,325,500 (1)
11	Aggregate Amount Beneficially Owned by Each Reporting Person 8,325,500 (2)	
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares <input type="checkbox"/>	
13	Percent of Class Represented by Amount in Row (11) 45.1% (2)	
14	Type of Reporting Person CO	

- (1) See Item 4. The reported shares consist of (i) 2,587,500 shares of Common Stock and (ii) 5,738,000 shares of Common Stock issuable upon the exercise of the Private Placement Warrants.
- (2) The aggregate percentage of shares reported owned is based upon 12,699,668 shares of Common Stock outstanding, as reported in the Issuer's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 4, 2022.
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### **SCHEDULE 13D**

This Schedule 13D is filed on behalf of LMFAO Sponsor, LLC, a Delaware limited liability company (the "Sponsor"), and LMF Funding America, Inc., a Delaware corporation ("LMFA").

#### **Item 1. Security and Issuer**

Securities acquired: Common stock, \$0.0001 par value ("Common Stock")

Issuer: SeaStar Medical Holding Corporation (the "Issuer")  
1200 West Platt Street, Suite 100, Tampa, Florida 33611.

#### **Item 2. Identity and Background**

(a) This statement is jointly filed by:

- (i) the Sponsor; and
- (ii) LMFA, the sole manager of the Sponsor.

All disclosures herein with respect to any Reporting Person are made only by such Reporting Person. Any disclosures herein with respect to persons other than the Reporting Persons are made on information and belief after making inquiry to the appropriate party.

Because LMFA is the sole manager of the Sponsor, LMFA and Sponsor are deemed to have shared voting and investment power over securities owned directly by the Sponsor.

(b) The address of the principal business and principal office of each of the Sponsor and LMFA is 1200 West Platt Street, Suite 100, Tampa, FL 33606.

(c) The Sponsor's principal business is to act as the Issuer's sponsor. LMFA's principal business is bitcoin mining and specialty finance.

(d) None of the Reporting Persons has, during the last five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) None of the Reporting Persons has, during the last five years, been a party to civil proceeding of a judicial administrative body of competent jurisdiction and, as a result of such proceeding, was, or is subject to, a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, Federal or state securities laws or finding any violation with respect to such laws.

(f) The Sponsor is a Delaware limited liability company. LMFA is a Delaware corporation.

#### **Item 3. Source and Amount of Funds or Other Consideration**

The aggregate purchase price for the shares of Common Stock currently beneficially owned by the Reporting Persons was \$25,000. The aggregate purchase price for the Private Placement Warrants beneficially owned by the Reporting Persons was \$5,738,000. The source of these funds was the working capital of the Sponsor and a loan by LMFA to Sponsor.

On October 28, 2022, the Issuer consummated a business combination transaction (the "Business Combination") pursuant to that certain Agreement and Plan of Merger, dated as of April 21, 2022 (the "Merger Agreement"), by and among LMF Acquisition Opportunities, Inc., a Delaware corporation ("LMAO"), LMF Merger Sub, Inc., a Delaware corporation and direct wholly owned subsidiary of LMAO, and SeaStar Medical, Inc., a Delaware corporation ("SeaStar Medical"). Upon consummation of the Business Combination, each share of Class B Common Stock was automatically converted on a 1-for-1 basis and into Class A Common Stock, and subsequently each share of Class A Common Stock of LMAO was automatically converted on a 1-for-1 basis into Common Stock of the Issuer.

As a result of the foregoing, the shares of Class B Common Stock of LMAO beneficially held by the Reporting Persons were converted into of 2,587,500 shares of Common Stock of the Issuer.

The information set forth in Item 4 and Item 6 of this Schedule 13D is incorporated by reference herein.

#### **Item 4. Purpose of the Transaction**

Upon the closing of the Business Combination (i) all shares outstanding of Class B Common Stock of LMAO were converted into shares of Class A Common Stock of LMAO, (ii) all shares of outstanding Class A Common Stock of LMAO were converted into shares of common stock of the Issuer ("Common Stock") and (iii) LMAO effected a name change to SeaStar Medical Holding Corporation. After such conversions, the Sponsor beneficially owns an aggregate of (i) 2,587,500 shares of Common Stock and (ii) 5,738,000 warrants to purchase shares of Common Stock.

The shares of Common Stock and Private Placement Warrants owned by the Reporting Persons have been acquired for investment purposes. The Reporting Persons may make further acquisitions of the Common Stock from time to time and, subject to certain restrictions, may dispose of any or all of the Common Stock held by the Reporting Persons at any time depending on an ongoing evaluation of the investment in such securities, prevailing market conditions, other investment opportunities and other factors.

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**Item 5. Interest in Securities of the Issuer**

(a), (b)

The aggregate number and percentage of Common Stock beneficially owned by the Reporting Persons (on the basis of a total of 12,699,668 shares of Common Stock outstanding as of October 28, 2022, as reported by the Issuer in its Current Report on Form 8-K, filed by the Issuer with the SEC on November 4, 2022) are as follows:

- |      |  |                   |
|------|--|-------------------|
| a)   | Amount beneficially owned: 8,325,500                     | Percentage: 45.1% |
| b)   | Number of shares to which the Reporting Person has:      |                   |
| i.   | Sole power to vote or to direct the vote:                | 0                 |
| ii.  | Shared power to vote or to direct the vote:              | 8,325,500         |
| iii. | Sole power to dispose or to direct the disposition of:   | 0                 |
| iv.  | Shared power to dispose or to direct the disposition of: | 8,325,500         |
| a)   | Amount beneficially owned: 8,325,500                     | Percentage: 45.1% |
| b)   | Number of shares to which the Reporting Person has:      |                   |
| i.   | Sole power to vote or to direct the vote:                | 0                 |
| ii.  | Shared power to vote or to direct the vote:              | 8,325,500         |
| iii. | Sole power to dispose or to direct the disposition of:   | 0                 |
| iv.  | Shared power to dispose or to direct the disposition of: | 8,325,500         |

(c)

Except for the transactions described in Item 3 and Item 4 of this Schedule 13D, the Reporting Persons have not engaged in any transaction during the past 60 days involving ordinary shares of the Issuer.

(d)

Not applicable.

(e)

Not applicable.

**Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer**

*Amended and Registration Rights Agreement*

On April 21, 2022, LMAO, Sponsor and certain stockholders of the Issuer entered into the Amended and Restated Registration Rights Agreement, which became effective upon the consummation of the Business Combination. The summary of such registration rights agreement contained herein is qualified in its entirety by reference to the full text of such agreement, a copy of which was filed by the Issuer as Exhibit 10.1 to the Form 8-K filed by the Issuer with the SEC on April 26, 2022 (and is incorporated by reference herein as Exhibit 10.1).

*Support Agreement.*

In connection with the execution of the Merger Agreement, the Sponsor entered into a Sponsor Support Agreement with LMAO and SeaStar Medical pursuant to which the Sponsor agreed, among other things, to vote or cause to be voted (or express consent or dissent in writing, as applicable) all its shares of Common Stock entitled to vote to approve and adopt the Merger Agreement and the Business Combination.

The description of the Support Agreement is qualified in its entirety by reference to the full text of such agreement, a copy of which was filed by the Issuer as Exhibit 10.2 to the Form 8-K filed by the Issuer with the SEC on April 26, 2022 (and is incorporated by reference herein as Exhibit 10.2).

*Director Nomination Agreement*

At the closing of the Business Combination, the Sponsor and LMAO entered into the Director Nomination Agreement, providing the Sponsor certain director nomination rights, including the right to appoint or nominate for election to the board of directors of the Issuer, as applicable, two individuals, to serve as Class II directors of the Issuer for a certain period following the closing of the Business Combination.

*Warrant Agreement*

On January 25, 2021, in connection with the IPO, the Issuer entered into a warrant agreement with Continental Stock Transfer & Trust Company, as warrant agent, which governs the terms of the Issuer's warrants. The summary of such warrant agreement contained herein is qualified in its entirety by reference to the full text of such agreement, a copy of which was filed by the Issuer as Exhibit 4.1 to the Form 8-K filed by the Issuer with the SEC on January 28, 2021 (and is incorporated by reference herein as Exhibit 4.1).

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**Item 7. Material to be Filed as Exhibits**

- 1 [Agreement and Plan of Merger, dated as of April 21, 2022, by and among LMF Acquisition Opportunities, Inc., LMF Merger Sub, Inc. and SeaStar Medical, Inc. \(Incorporated by reference to the Issuer's current report on Form 8-K filed on April 26, 2022\).](#)
  - 2 [Warrant Agreement, dated January 25, 2021, between LMAO and Continental Stock Transfer & Trust Company \(Incorporated by reference to the Issuer's current report on Form 8-K filed on January 28, 2021\).](#)
  - 3 [Amended and Restated Registration Rights Agreement, dated as of April 21, 2022, by and among LMAO, SeaStar Medical, Inc., and certain stockholders of SeaStar Medical, Inc. \(Incorporated by reference to the Issuer's current report filed on Form 8-K on April 26, 2022\).](#)
  - 4 [Sponsor Support Agreement, dated as of April 21, 2022, by and among LMF Acquisition Opportunities, Inc., SeaStar Medical, Inc., and LMFAO Sponsor LLC \(Incorporated by reference to the Issuer's current report filed on Form 8-K on April 26, 2022\).](#)
  - 5 [Director Nomination Agreement, dated as of October 28, 2022, by and among LMFAO Sponsor LLC and LMAO \(Incorporated by reference to Issuer's current report on Form 8-K filed on November 4, 2022\).](#)
  - 6 [Joint Filing Agreement \(filed herewith\).](#)
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**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.

Date: November 7, 2022

**LMFAO SPONSOR LLC**

By: /s/ Bruce M. Rodgers

Name: Bruce M. Rodgers

Title: President and Chief Executive Officer

**LM FUNDING AMERICA, INC.**

By: /s/ Bruce M. Rodgers

Name: Bruce M. Rodgers

Title: Chief Executive Officer

Date: November 7, 2022

**JOINT FILING AGREEMENT**

Pursuant to and in accordance with the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (the "Exchange Act"), the undersigned hereby agree to the joint filing on behalf of each of them of any filing required by such party under Section 13 of the Exchange Act or any rule or regulation thereunder (including any amendment, restatement, supplement, and/or exhibit thereto) with respect to securities of SeaStar Medical Holding Corporation, a Delaware corporation, and further agree to the filing, furnishing, and/or incorporation by reference of this Agreement as an exhibit thereto. Each of them is responsible for the timely filing of such filings and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein; but none of them is responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate. This Agreement shall remain in full force and effect until revoked by any party hereto in a signed writing provided to each other party hereto, and then only with respect to such revoking party. This Agreement may be executed in any number of counterparts all of which taken together shall constitute one and the same instrument.

Dated: November 7, 2022

**LMFAO SPONSOR LLC**

By: /s/ Bruce M. Rodgers  
Name: Bruce M. Rodgers  
Title: President and Chief Executive Officer

**LM FUNDING AMERICA, INC.**

By: /s/ Bruce M. Rodgers  
Name: Bruce M. Rodgers  
Title: Chief Executive Officer