

SeaStar Medical Holding Corporation

3513 Brighton Blvd,
Suite 410
Denver, CO 80216
(844) 427-8100

Prospectus
Supplement No. 2

(to the Prospectus dated January 4, 2023)

This Prospectus Supplement No. 2 supplements and amends the prospectus dated January 4, 2023, as amended by Prospectus Supplement No. 1 dated February 15, 2023, (the "Prospectus"), relating to the sale from time to time of up to 9,829,000 shares of our common stock and 6,438,000 of our warrants to purchase common stock by a selling shareholder.

On February 15, 2023, we filed with the U.S. Securities and Exchange Commission the attached Current Report on Form 8-K.

This Prospectus Supplement No. 2 should be read in conjunction with the Prospectus and is qualified by reference to the Prospectus except to the extent that the information in this Prospectus Supplement No. 2 supersedes the information contained in the Prospectus.

Our common stock is traded on the Nasdaq Stock Market under the symbol "ICU". On February 14, 2023, the last reported sale price of our common stock was \$3.10 per share.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 6 of the Prospectus dated January 4, 2023.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this Prospectus Supplement No. 2 is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement No. 2 is February 16, 2023.

**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): February 14, 2023

SEASTAR MEDICAL HOLDING CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

001-39927
(Commission
File Number)

85-3681132
(I.R.S. Employer
Identification No.)

3513 Brighton Blvd., Suite 410
Denver, CO
(Address of principal executive offices)

80216
(Zip Code)

Registrant's telephone number, including area code: (813) 222-8996

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 Exchange Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.0001 par value	ICU	The Nasdaq Stock Market LLC
Warrants, each whole warrant exercisable for one share of Common Stock for \$11.50 per share	ICUCW	The Nasdaq Stock Market LLC

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 7.01. Regulation FD Disclosure.

On February 14, 2023, SeaStar Medical Holding Corporation (the “Company”) announced that it will hold a conference call to discuss business updates including the recent FDA approval to conduct a pivotal trial evaluating the effectiveness of its Selective Cytopheretic Device (SCD) in reducing hyperinflammation in adults with acute kidney injury (AKI) and an update regarding the Humanitarian Device Exemption (HDE) submission for market approval for use of the SCD for critically ill children with AKI on Wednesday, February 15, 2023 4:00 p.m. ET / 1:00 p.m. PT. A copy of the presentation slide deck that was presented is being furnished as Exhibit 99.1 to this report on Form 8-K. The recorded webcast of the presentation may be accessed by visiting the Investors Events & Presentations section of the Company’s website at <https://investors.seastarmedical.com/events-and-presentations/default.aspx>.

The information in this Item 7.01 and Exhibit 99.1 attached hereto is intended to be furnished and shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 (the “Exchange Act”) or otherwise subject to the liabilities of that section. It may only be incorporated by reference in another filing under the Exchange Act or the Securities Act of 1933, as amended, if such subsequent filing specifically references the information furnished pursuant to Item 7.01 and Exhibit 99.1 of this Current Report on Form 8-K.

Item 8.01. Other Events.

On February 14, 2023, the Company issued a press release announcing a business update and the recent FDA approval to conduct a pivotal trial. A copy of this press release is being filed herewith as Exhibit 99.2 to this Current Report on Form 8-K.

Additionally, on February 15, 2023, the Company issued a press release announcing details of its pivotal NEUTRALIZE-AKI study evaluating the safety and efficacy of its Selective Cytopheretic Device (SCD) in adults with acute kidney injury (AKI) requiring continuous kidney replacement therapy (CKRT). A copy of this press release is being filed herewith as Exhibit 99.3 to this Current Report on Form 8-K.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Presentation distributed by SeaStar Medical Holding Corporation dated February 15, 2023, furnished hereto.
99.2	Press Release issued by SeaStar Medical Holding Corporation dated February 14, 2023.
99.3	Press Release issued by SeaStar Medical Holding Corporation dated February 15, 2023.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURE

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.

SeaStar Medical Holding Corporation

Date: February 15, 2023

By: /s/ Eric Schlorff

Eric Schlorff
Chief Executive Officer