

The information in this prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been filed with and declared effective by the Securities Exchange Commission. This prospectus supplement and the accompanying prospectus are not an offer to sell these securities, and we are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS
(To Prospectus dated January 30, 2023)

SUBJECT TO COMPLETION

DATED APRIL 17, 2023

Shares Common Stock



Marpai, Inc.

We are offering _____ shares of our Class A common stock, \$0.001 par value per share, or our common stock.

Our common stock is traded on the Nasdaq Capital Market under the symbol “MRAI” On April 14, 2023, the last reported sale price of our common stock on the Nasdaq Capital Market was \$1.87 per share. As of April 14, 2023, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$22,202,117 based on 11,872,790 shares of common stock held by such non-affiliates, and a per share price of \$1.87 the closing sale price of our common stock on April 14, 2023. During the 12-calendar month period that ends on, and includes, the date of this prospectus supplement (but excluding this offering), we have not offered and sold any of our securities pursuant to General Instruction I.B.6 of Form S-3.

Investing in our securities involves a high degree of risk. You should read the “Risk Factors” section beginning on page S-7 of this prospectus supplement and page 4 of the accompanying prospectus and in the documents incorporated by reference in this prospectus supplement for a discussion of factors to consider before deciding to invest in our common stock.

Neither the Securities and Exchange Commission, or the SEC, nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Share	Total
Public offering price	\$	\$
Underwriting discounts and commissions ⁽¹⁾	\$	\$
Proceeds to us, before expenses	\$	\$

- (1) We have agreed to issue the representative of the underwriters or its designees warrants to purchase a number of shares of common stock equal to 5% of the shares of common stock sold in this offering and to reimburse the underwriters for certain offering-related expenses. See “Underwriting” beginning on page S-14 of this prospectus supplement for additional information regarding underwriting discounts, commissions and estimated expenses.

The underwriters have committed to purchase all of the shares of common stock offered by us in this offering. The obligations of the underwriters may be terminated upon the occurrence of certain events specified in the Underwriting Agreement. Furthermore, pursuant to the Underwriting Agreement, the underwriters’ obligations are subject to customary conditions, representations and warranties, such as receipt by the underwriters of officers’ certificates and legal opinions.

The underwriters expect to deliver the shares on or about April , 2023.

ThinkEquity

The date of this prospectus supplement is April , 2023.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 (File No. 333-269326) that we filed with the Securities and Exchange Commission, or SEC, on January 10, 2023, and that was declared effective by the SEC on January 30, 2023 using a “shelf” registration process. This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained in this prospectus supplement or the accompanying prospectus or incorporated by reference herein. We have not authorized, and the underwriters have not authorized, anyone to provide you with information that is different. The information contained in this prospectus supplement or the accompanying prospectus or incorporated by reference herein or therein is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock.

This prospectus supplement and the accompanying prospectus contain summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated herein by reference as exhibits to the registration statement, and you may obtain copies of those documents as described below in the section entitled “Where You Can Find More Information.”

It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled “Where You Can Find More Information” and “Information Incorporated By Reference” in this prospectus supplement and in the accompanying prospectus, respectively.

This prospectus supplement and the accompanying prospectus contain and incorporate by reference market data and industry statistics and forecasts that are based on independent industry publications and other publicly-available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus supplement, accompanying prospectus or the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed in the section entitled “Risk Factors” in this prospectus supplement and the accompanying prospectus, and under similar headings in the other documents that are incorporated herein by reference. Accordingly, investors should not place undue reliance on this information.

We are offering to sell, and seeking offers to buy, the securities offered by this prospectus supplement only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the securities offered by this prospectus supplement in certain

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jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

When used herein, unless the context requires otherwise, references to the “Company,” “we,” “our” and “us” refer to Marpai, Inc., a Delaware corporation, collectively with its wholly-owned subsidiaries, Marpai Captive, Inc., Marpai Administrators LLC, Maestro Health, LLC, and Marpai Health, Inc. and its wholly owned Israeli subsidiary EYME Technologies, Ltd., unless otherwise indicated or required by the context.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents incorporated by reference herein and therein. This summary is not complete and does not contain all the information you should consider before investing in our securities pursuant to this prospectus supplement and the accompanying prospectus. Before making an investment decision, to fully understand this offering and its consequences to you, you should carefully read this entire prospectus supplement and the accompanying prospectus, including "Risk Factors," the financial statements, and related notes, and the other information incorporated by reference herein and therein.

Overview

We are a technology-driven healthcare payer, which uses artificial intelligence, or A.I., and data analytics to help our clients, or Clients, lower their cost of healthcare by enabling better health outcomes for their employees and families. Our mission is to positively change healthcare for the benefit of (i) our Clients who are self-insured employers that pay for their employees' healthcare benefits and engage us to administer the latter's healthcare claims, and we refer to them as our "Clients"; (ii) employees and their family members who receive these healthcare benefits from our Clients, and we refer to them as our "Members", and (iii) healthcare providers including, doctors, doctor groups, hospitals, clinics, and any other entities providing healthcare services or products, and we refer to them as the "Providers." We are creating the healthcare payer of the future for self-insured employers in the U.S., what we refer to as the "Payer of the Future." We provide administrative services, and act as Third-Party-Administrator, or TPA, to self-insured employers who provide healthcare benefits to their employees. Most of our Clients are small and medium-sized companies as well as local government entities.

We were formed as a Delaware corporation on January 22, 2021 with the intention to facilitate an initial public offering and other related transactions in order to carry on the business of two healthcare entities, Marpai Health and Marpai Administrators. We acquired Maestro Health LLC on October 31, 2022 to increase the capacity to service the health industry. Our mission is to positively change healthcare for the benefit of (i) our clients who are self-insured employers that pay for their employees' healthcare benefits and engage the Company to administer the latter's healthcare claims, to whom the Company refers as "Clients"; (ii) employees who receive these healthcare benefits from its clients, to whom we refer as "Members", and (iii) healthcare providers including doctors, doctor groups, hospitals, clinics, and any other entities providing healthcare services or products to whom we refer as "Providers". Our mission is to positively change healthcare for the benefit of (i), (ii), and (iii).

Our company is the combination of Marpai Health, Inc., Marpai Administrators, and Maestro Health LLC. Marpai Health is our technology focused subsidiary, with a research and development team in Tel Aviv, Israel. Marpai Administrators and Maestro Health LLC are our healthcare payer subsidiaries that provides administration services to self-insured employer groups across the United States. They act as a TPA handling all administrative aspects of providing healthcare to self-insured employer groups. We have combined these two businesses to create what we believe to be the Payer of the Future, which has not only the licenses, processes and know-how of a payer but also the latest technology. This combination allows us to differentiate in the TPA market by delivering a technology-driven service that we believe can lower the overall cost of healthcare while maintaining or improving healthcare outcomes. Marpai Captive was founded in March 2022 as a Delaware corporation. Marpai Captive is intended to be engaged in the captive insurance market. Marpai Captive commenced operations in the first quarter of 2023.

Many states have enacted laws prohibiting physicians from practicing medicine in partnership with non-physicians, such as business corporations. In some states, including New York, these take the form of laws or regulations prohibiting splitting of physician fees with non-physicians or others. As we do not engage in the practice of medicine or fee-splitting with any medical professionals, we do not believe these laws restrict our business. Our activities involve only monitoring and analyzing historical claims data, including our Members' interactions with licensed healthcare professionals, and recommending healthcare providers, Value Based Care companies and/or

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sources of treatment. We do not provide medical prognosis or healthcare. In accordance with various states' corporate practice of medicine laws and states' laws and regulations which define the practice of medicine, our call center staff are prohibited from providing Members with any evaluation or recommendation concerning a medical condition, diagnosis, prescription, care and/or treatment. Rather, our call center staff can only provide Members with general and publicly available information that is non-specific to the Members' medical conditions and statistical information about the prevalence of medical conditions within certain populations or under certain circumstances. Our call center staff does not discuss Members' individual medical conditions and are prohibited from asking Members for any additional PHI as such term is defined under the HIPAA. Our call center staff has been trained and instructed to always inform Members that they are not licensed medical professionals, are not providing medical advice, and that Members should reach out to their medical provider for any medical advice.

After the acquisition of Maestro Health LLC, we commenced an integration project that combines the operation of Marpai Administrators and Maestro Health LLC. We expect to complete the integration of the two businesses in 2023 and they will then operate as one business.

Corporate Information

Our address is 5701 East Hillsborough Ave., Suite 1417, Tampa, Florida 33610 5428 and our telephone number is (646) 303 3483. Our corporate website is: www.marpaihealth.com. The content of our website shall not be deemed incorporated by reference in this prospectus.

THE OFFERING

Common stock offered by us	shares
Common stock to be outstanding immediately after the offering	shares
Offering price per share	\$ per share
Firm Commitment	The underwriters have committed to purchase all of the shares of common stock offered by us in this offering. The obligations of the underwriters may be terminated upon the occurrence of certain events specified in the Underwriting Agreement. Furthermore, pursuant to the Underwriting Agreement, the underwriters' obligations are subject to customary conditions, representations and warranties, such as receipt by the underwriters of officers' certificates and legal opinion. See "Underwriting" on page S-14.
Use of proceeds	<p>We estimate that our net proceeds from this offering will be approximately \$ million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.</p> <p>We intend to use the net proceeds from this offering for the repayment of debt relating to our acquisition of Maestro Health LLC (in an amount equal to not less than 35% of the funds raised in the offering) and the balance for general corporate purposes. See "Use of Proceeds."</p>
Dividend policy	We have never paid cash dividends on our common stock and do not anticipate paying any cash dividends in the foreseeable future but intend to retain our capital resources for reinvestment in our business.
Risk factors	Investing in our common stock involves a high degree of risk. You should read the "Risk Factors" section beginning on page S-7 of this prospectus supplement and page 4 of the accompanying prospectus and in the documents incorporated by reference in this prospectus supplement for a discussion of factors to consider before deciding to invest in our common stock.
Nasdaq Capital Market symbol	"MRAI."

The number of shares of common stock to be outstanding immediately after this offering is based on 21,612,464 shares of our common stock outstanding as of April 14, 2023, and excludes:

- 1,092,501 shares of common stock reserved for future issuance under our 2021 Equity Incentive Plan;

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- 4,549,600 shares of common stock issuable upon exercise of outstanding options with an exercise price of \$1.31 per share;
- 895,032 shares of common stock issuable upon vesting of restricted stock units; and
- 1,695,748 shares of common stock issuable upon exercise of warrants at an exercise price of \$5.89 per share.

Except as otherwise indicated, all information in this prospectus supplement assumes no exercise, conversion, or settlement of the outstanding options, preferred stock, restricted stock units or warrants described above, and assumes no exercise of the warrants issuable to the representative of the underwriters.

RISK FACTORS

An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should consider carefully the risks described below, together with other information in this prospectus supplement, the accompanying prospectus, the information and documents incorporated by reference. You should also consider the risks, uncertainties and assumptions discussed under the heading "Risk Factors" included in our most recent annual report on Form 10-K and the subsequent quarterly reports on Form 10-Q and other reports that we file with the SEC, which are on file with the SEC and are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. Please also read carefully the section below entitled "Special Note Regarding Forward-Looking Statements."

Risks Related to This Offering

You will experience immediate and substantial dilution.

Because the price per share of common stock being offered in this offering is expected to be substantially higher than the net tangible book value per share of our common stock, you may experience substantial dilution to the extent of the difference between the effective offering price per share of common stock you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our net tangible book value as of December 31, 2022, was approximately \$(10,614,720), or \$(0.50) per share of common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities, all divided by the number of shares of common stock outstanding. See the section entitled "Dilution" on page S-13 below for a more detailed illustration of the dilution you may incur if you participate in this offering.

Our management team may invest or spend the proceeds raised in this offering in ways with which you may not agree or which may not yield a significant return.

Our management will have broad discretion over the use of proceeds from this offering. We currently intend to use the net proceeds of this offering as described in the section entitled "Use of Proceeds." However, our management will have broad discretion in the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of this offering. Accordingly, you are relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds will be used appropriately. The failure by management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline, and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in short-term, interest-bearing instruments. These investments may not yield a favorable return, or any return, to us or our stockholders.

Our stock price is and may continue to be volatile and you may not be able to resell our common stock at or above the price you paid.

The market price for our common stock is volatile and may fluctuate significantly in response to a number of factors, many of which we cannot control, such as quarterly fluctuations in financial results, the timing and our ability to advance the development of our product candidates or changes in securities analysts' recommendations could cause the price of our stock to fluctuate substantially. In addition, stock markets generally have recently experienced volatility. Our stock price has experienced significant price and volume volatility for the past few trading days, and our stock price is likely to experience significant volatility in the future. The price of our common stock may decline and the value of any investment in our common stock may be reduced regardless of our performance. Further, other than during the last week, the daily trading volume of our common stock has historically been relatively low. As a result of the historically low volume, our shareholders may be unable to sell significant quantities of common stock in the public trading markets without a significant reduction in the price of our common shares. Each of these factors, among others, could harm your investment in our common stock and could result in your being unable to resell the shares of our common stock that you purchase at a price equal to or above the price you paid.

In the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the issuer. If any of our stockholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the attention of our management would be diverted from the operation of our business.

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We do not intend to pay dividends on our common stock, so any returns will be limited to the value of our common stock.

We currently anticipate that we will retain any future earnings to finance the continued development, operation and expansion of our business. As a result, we do not anticipate declaring or paying any cash dividends or other distributions in the foreseeable future. If we do not pay dividends, our common stock may be less valuable because stockholders must rely on sales of their common stock after price appreciation, which may never occur, to realize any gains on their investment.

The sale of our common stock in this offering and any future sales of our common stock, or the perception that such sales could occur, may depress our stock price and our ability to raise funds in new stock offerings.

We may from time to time issue additional shares of common stock at a discount from the current trading price of our common stock. As a result, our stockholders would experience immediate dilution upon the purchase of any shares of our common stock sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or common stock. Sales of shares of our common stock in this offering and the public market following this offering, or the perception that such sales could occur, may lower the market price of our common stock and may make it more difficult for us to sell equity securities or equity-related securities in the future at a time and price that our management deems acceptable, or at all.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements in this prospectus and any accompanying prospectus supplement about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. These statements are often, but not always, made through the use of words or phrases such as “believe,” “will,” “expect,” “anticipate,” “estimate,” “intend,” “plan,” and “would.” For example, statements concerning financial condition, possible or assumed future results of operations, growth opportunities, industry ranking, plans and objectives of management, markets for our common stock and future management and organizational structure are all forward-looking statements. Forward-looking statements are not guarantees of performance. They involve known and unknown risks, uncertainties and assumptions that may cause actual results, levels of activity, performance or achievements to differ materially from any results, levels of activity, performance or achievements expressed or implied by any forward-looking statement.

Any forward-looking statements are qualified in their entirety by reference to the risk factors discussed throughout this prospectus and any accompanying prospectus supplement. Some of the risks, uncertainties and assumptions that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, but are not limited to:

- our ability to effectively manage our operations and achieve growth, as well as integrate Maestro Health, LLC;
- our ability to protect our intellectual property and continue to innovate;
- our expectations of the financial performance of the Company;
- our success in retaining or recruiting, or changes required in, our officers, key employees, or directors;
- the potential insufficiency of our disclosure controls and procedures to detect errors or acts of fraud;
- the accuracy of our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- the success of competing products or technologies that are or may become available;
- our potential ability to obtain additional financing;
- our expectations regarding the impact of the COVID-19 pandemic, including on our ability to grow the business;
- acts of terrorism, outbreaks of pandemics or other significant adverse public health safety events or conditions, war or other hostilities, supply chain disruptions, or other manmade natural disasters beyond our control;
- compliance with, and changes to federal, state and local laws and regulations, accounting rules, tax laws and similar matters;
- the impact of healthcare reform legislations;
- our continued listing on Nasdaq;
- our public securities’ potential liquidity and trading; and

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- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act; and our current and future capital requirements and our ability to satisfy our capital needs through financing transactions or otherwise.

The foregoing list sets forth some, but not all, of the factors that could affect our ability to achieve results described in any forward-looking statements. You should read this prospectus and any accompanying prospectus supplement and the documents that we reference herein and therein and have filed as exhibits to the registration statement, of which this prospectus is part, completely and with the understanding that our actual future results may be materially different from what we expect. You should assume that the information appearing in this prospectus and any accompanying prospectus supplement is accurate as of the date on the front cover of this prospectus or such prospectus supplement only. Because the risk factors referred to on page 6 of this prospectus and incorporated herein by reference, could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. We qualify all of the information presented in this prospectus and any accompanying prospectus supplement, and particularly our forward-looking statements, by these cautionary statements.

USE OF PROCEEDS

We estimate that the net proceeds from this offering of approximately \$, after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

We intend to use the net proceeds from this offering for the repayment of debt relating to our acquisition of Maestro Health LLC (in an amount equal to not less than 35% of the funds raised in the offering) and the balance for general corporate purposes. We do not currently have more specific plans or commitments with respect to the net proceeds from this offering and, accordingly, are unable to quantify the allocation of such proceeds among the various potential issues.

On August 4, 2022, we entered into a Membership Interest Purchase Agreement, or the Agreement, with X.L. America Inc., a Delaware corporation, Seaview Re Holdings Inc., a Delaware corporation (X.L. America Inc. and Seaview Re Holdings Inc. are collectively referred to herein as the Equity Sellers), and AXA S.A., a French société anonyme, or the Debt Seller, and, together with the Equity Sellers, collectively, the Sellers Pursuant to the terms of the Agreement, we agreed to acquire all of the membership interests, or the Units, of Maestro Health LLC, or the Maestro Acquisition. The Equity Sellers owned an aggregate of 100% of the issued and outstanding Units of Maestro Health LLC. The Maestro Acquisition closed on October 31, 2022, and was subject to certain customary closing conditions as contained in the Agreement, including: (i) that the Equity Sellers shall have sold, assigned, transferred, conveyed and delivered to the Company all of the Equity Sellers' rights, title, and interests in and to all of the Units; and (ii) the Debt Seller shall have irrevocably transferred and assigned to us all of the Debt Seller's rights and obligations with respect to receiving payments under that certain Term Loan Agreement, dated May 11, 2022, by and between the Debt Seller and Maestro Health LLC, in the principal amount of \$59,900,000, or the AXA Note.

In consideration for our acquisition of the Units, we agreed to pay the Sellers an aggregate purchase price, or the Purchase Price, of \$19,900,000 determined on the closing date, or the Base Purchase Price, which shall be payable on or before April 1, 2024, or the Payment Date, and shall accrue interest until such time that is paid, such that, on the Payment Date, the Base Purchase Price, plus all accrued and unpaid interest, shall equal \$22,100,000 (for clarity, the Base Purchase Price shall be adjusted, in each case, pursuant to the terms of the Agreement). We agreed to pay the Equity Sellers an amount equal to \$100 and the balance of the Purchase Price is to be paid to the Debt Seller for the repayment of the AXA Note. In no event will we be responsible for any further payments for the repayment of the AXA Note other than the repayment of the Purchase Price as provided in the Agreement. Following the Payment Date, any unpaid portion of the Purchase Price shall accrue interest at ten percent (10%) per annum, compounding annually, calculated on the basis of a 365-day year for the actual number of days elapsed, and shall be repaid as promptly as practicable to the Debt Seller. In addition, in the event we or one of our subsidiaries receive any proceeds from the sale of any securities in a private placement or public offering of securities, or each an Offering, then we shall pay to the Debt Seller an amount equal to thirty-five percent (35%) of the net proceeds of the Offering no later than sixty (60) days after the closing of Offering until such time as the Purchase Price has been paid in full. Notwithstanding the foregoing, we shall be required to make accumulated annual payments to the Debt Seller, representing the Purchase Price, as follows: (i) \$5,000,000 to be paid by December 31, 2024, (ii) \$11,000,000 to be paid by December 31, 2025, and (iii) \$19,000,000 to be paid by December 31, 2026. We are obligated to pay the full amount of any unpaid Purchase Price (inclusive of any accrued interest) by no later than year-end 2027.

The expected use of net proceeds of this offering represents our current intentions based upon our present plan and business conditions. Investors are cautioned, however, that expenditures may vary substantially from these uses. Investors will be relying on the judgment of our management, who will have broad discretion regarding the application of the proceeds of this offering. The amounts and timing of our actual expenditures will depend upon numerous factors, including the amount of cash generated by our operations, the amount of competition we face and other operational factors. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes.

Pending application of the net proceeds as described above, we intend to invest the proceeds to us in investment-grade, interest-bearing securities such as money market funds, certificates of deposit, or direct or guaranteed obligations of the U.S. government, or hold as cash. We cannot predict whether the proceeds invested will yield a favorable, or any, return.

DIVIDEND POLICY

We have never paid or declared any cash dividends on our common stock, and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. We intend to retain all available funds and any future earnings to fund the development and expansion of our business. Any future determination to pay dividends will be at the discretion of our board of directors and will depend upon a number of factors, including our results of operations, financial condition, future prospects, contractual restrictions, restrictions imposed by applicable law and other factors our board of directors deems relevant.

DILUTION

If you invest in our common stock, your interest will be diluted immediately to the extent of the difference between the offering price per share you will pay in this offering and the as-adjusted net tangible book value per share of our common stock immediately after giving effect to this offering.

Our net tangible book value as of December 31, 2022 was approximately \$(10,614,720), or \$(0.50) per share of common stock. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of December 31, 2022.

As-adjusted net tangible book value per share represents our net tangible book value after giving effect to the sale of _____ shares of common stock at the public offering price of \$ _____ per share, and, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us in connection with this offering, would have been approximately \$ _____ million, or \$ _____ per share. This represents an immediate increase in net tangible book value of \$ _____ per share to our existing stockholders and an immediate dilution of approximately \$ _____ per share to purchasers of our common stock in this offering.

The following table illustrates this per share dilution.

Public offering price per share		\$
Net tangible book value per share as of December 31, 2022	\$(0.50)	
Increase in net tangible book value per share attributable to this offering	\$	
As-adjusted net tangible book value per share as of December 31, 2022, after giving effect to this offering		\$
Dilution per share to new investors in this offering		\$

The number of shares of common stock to be outstanding immediately after this offering is based on 21,279,032 shares of our common stock outstanding as of December 31, 2022, and excludes:

- 2,699,263 shares of common stock reserved for future issuance under our 2021 Equity Incentive Plan;
- 3,727,737 shares of common stock issuable upon exercise of outstanding options with an exercise price of \$1.47 per share;
- 291,827 shares of common stock issuable upon vesting of restricted stock units; and
- 1,648,873 shares of common stock issuable upon exercise of warrants at an exercise price of \$5.92 per share.

Except as otherwise indicated, all information in this prospectus supplement assumes no exercise, conversion, or settlement of the outstanding options, preferred stock, restricted stock units or warrants described above and assumes no exercise by the representative of the warrants issuable to the representative of the underwriters. To the extent that any of these outstanding warrants or options are exercised at prices per share below the public offering price per share in this offering or we issue additional shares under our equity incentive plans at prices below the public offering price per share in this offering, you may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital by issuing equity or convertible debt securities, your ownership will be further diluted.

UNDERWRITING

ThinkEquity LLC is acting as the representative of the several underwriters named in the Underwriting Agreement, or the Representative. On April , 2023 we entered into an underwriting agreement with the Representative, or the Underwriting Agreement. Subject to the terms and conditions of the Underwriting Agreement, we have agreed to sell, and each underwriter named below has severally agreed to purchase, the number of shares of common stock listed next to each underwriter's name in the following table, at the public offering price less the underwriting discounts and commissions, as set forth on the cover page of this prospectus supplement and as indicated below:

<u>Underwriters</u>	<u>Number of Shares</u>
ThinkEquity LLC	=====
Total	=====

The underwriters have committed to purchase all of the shares of common stock offered by us in this offering. The obligations of the underwriters may be terminated upon the occurrence of certain events specified in the Underwriting Agreement. Furthermore, pursuant to the Underwriting Agreement, the underwriters' obligations are subject to customary conditions, representations and warranties, such as receipt by the underwriters of officers' certificates and legal opinions.

The underwriters are offering the shares subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel and other conditions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

The underwriters propose to offer the shares to the public at the public offering price set forth on the cover of the prospectus. After the shares are released for sale to the public, the underwriters may from time to time change the offering price and other selling terms.

Discounts and Commissions

The Representative has advised that the underwriters propose to offer the shares of common stock directly to the public at the public offering price per share set forth on the cover page of this prospectus. After the offering to the public, the offering prices and other selling terms may be changed by the underwriters without changing the proceeds we will receive from the underwriters. Any shares sold by the underwriters to securities dealers will be sold at the public offering price less a concession not in excess of \$ per share.

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The following table summarizes the public offering price, underwriting commissions, and proceeds before expenses to us.

	Per Share	Total
Public offering price	\$	\$
Underwriting discount (7%) ⁽¹⁾	\$	\$
Proceeds, before expenses, to us	\$	\$

- (1) We have agreed to pay a non-accountable expense allowance to the Representative equal to 1% of the gross proceeds received in this offering which is not included in the underwriting discounts and commission.

We have agreed to reimburse the Representative for all expenses relating to the offering, including, without limitation, (a) all filing fees and communication expenses relating to the registration of the shares to be sold in the offering with the SEC; (b) all filing fees and expenses associated with the review of the offering by FINRA; (c) all fees and expenses relating to the listing of such Shares on Nasdaq, including any fees charged by The Depository Trust Company (DTC) for new securities; (d) all fees, expenses and disbursements relating to the registration or qualification of such Shares under the “blue sky” securities laws of such states, if applicable, and other jurisdictions as the Representative may reasonably designate; (e) all fees, expenses and disbursements relating to the registration, qualification or exemption of such Shares under the securities laws of such foreign jurisdictions as the Representative may reasonably designate; (f) the costs of all mailing and printing of the underwriting documents (including, without limitation, the underwriting Agreement, any Blue Sky Surveys and, if appropriate, any agreement among Underwriters, selected dealers’ agreement, underwriters’ questionnaire and power of attorney), registration statements, prospectuses and all amendments, supplements and exhibits thereto and as many preliminary and final prospectuses as the Representative may reasonably deem necessary; (g) the costs and expenses of the public relations firm; (h) the costs of preparing, printing and delivering certificates representing the Shares; (i) fees and expenses of the transfer agent for the common Stock; (j) stock transfer and/or stamp taxes, if any, payable upon the transfer of securities from the Company to the Representative; (k) the costs associated with advertising the offering in the national editions of the Wall Street Journal and New York Times; (l) the costs associated with bound volumes of the public offering materials as well as commemorative mementos and lucite tombstones in such quantities as the Representative may reasonably request; (m) the fees and expenses of the Company’s accountants; (n) the fees and expenses of the Company’s legal counsel and other agents and representatives; (o) the fees and expenses of the underwriters’ legal counsel not to exceed \$100,000; (p) the \$20,000 cost associated with the use of Ipreo’s book building, prospectus tracking and compliance software for the offering; (q) \$10,000 for data services and communications expenses; and (r) up to \$15,000 of the Representative’s market making and trading, and clearing firm settlement expenses for the offering.

We expect that the total expenses of the offering payable by us, excluding underwriting discount and commissions, will be approximately \$.

Representative’s Warrants

We have also agreed to issue to the Representative warrants, or the Representative’s Warrants, to purchase up to an aggregate of _____ shares of our common stock (5.0% of the shares of common stock sold in the offering). The Representative’s Warrants are exercisable at a per share price equal to 125% of the public offering price per share in this offering. The Representative’s Warrants are exercisable at any time and from time to time, in whole or in part, commencing on the six-month anniversary of the commencement of sales in this offering and expiring on the date that is four and a half years following the date that such warrants become exercisable. The Representative’s Warrants and underlying shares of common stock are being issued in a private placement and are not a part of this registration statement.

The Representative’s Warrants are deemed underwriter compensation by FINRA and are, therefore, subject to a 180-day lock-up pursuant to FINRA Rule 5110(e)(1). The Representative (or permitted assignees under Rule 5110(e)(1)) will not sell, transfer, assign, pledge or hypothecate these warrants or the securities underlying these warrants, nor will they engage in any hedging, short sale, derivative, put or call transaction that would result in the effective economic disposition of the warrants or the underlying securities for a period of 180 days from the commencement of sales in this offering. In addition, the Representative’s Warrants provide for registration rights upon

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request, in certain cases. The demand registration right provided will not be greater than five years from the effective date of this offering in compliance with FINRA Rule 5110(g)(8)(C). The piggyback registration right provided will not be greater than seven years from the effective date of this offering in compliance with FINRA Rule 5110(g)(8)(D). We will bear all fees and expenses attendant to registering the securities issuable on exercise of the Representative's Warrants other than underwriting commissions incurred and payable by the holders. The exercise price and number of shares issuable upon exercise of the Representative's Warrants may be adjusted in certain circumstances including in the event of a stock dividend or our recapitalization, reorganization, merger, or consolidation. However, neither the Representative Warrant exercise price, nor the number of shares of common stock underlying such warrants, will be adjusted for issuances of shares of common stock by the Company at a price below the exercise price of the Representative's Warrants.

Discretionary Accounts

The underwriters do not intend to confirm sales of the securities offered hereby to any accounts over which they have discretionary authority.

Lock-Up Agreements

Pursuant to certain "lock-up" agreements, we, and our officers and directors have agreed, for a period of 3 months from the date of this prospectus, for, not to engage in any of the following, whether directly or indirectly, without the Representative's consent: offer to sell, sell, contract to sell, pledge, grant, lend, or otherwise transfer or dispose of our common stock or any securities convertible into or exercisable or exchangeable for our common stock (other than warrants issued in connection with entering into a debt facility), or the Lock-Up Securities; enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Lock-Up Securities; make any demand for or exercise any right or cause to be filed a registration statement, including any amendments thereto, with respect to the registration of any Lock-Up Securities; enter into any transaction, swap, hedge, or other arrangement relating to any Lock-Up Securities subject to customary exceptions; or publicly disclose the intention to do any of the foregoing. We have also agreed not to complete any offering of debt securities of the Company, other than entering into a line of credit with a traditional bank or other debt facility.

Indemnification

We have agreed to indemnify the underwriters against liabilities relating to this offering that may arise under the Securities Exchange Act of 1934 and from any breach of the representations and warranties contained in the Underwriting Agreement. We have further agreed to contribute to payments that the underwriters may be required to make for these liabilities.

Electronic Offer, Sale and Distribution of Shares

This prospectus in electronic format may be made available on websites or through other online services maintained by one or more of the underwriters, or by their affiliates. Other than this prospectus in electronic format, the information on any underwriter's website and any information contained in any other website maintained by an underwriter is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved or endorsed by us or any underwriter in its capacity as underwriter, and should not be relied upon by investors.

Offer Restrictions Outside of the United States

Other than in the United States, no action has been taken that would permit a public offering of our common stock in any jurisdiction where action for the purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that country or jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

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Right of First Refusal

For 12 months from the date that is six days following closing date of this offering, the Representative will have an irrevocable right of first refusal to act as sole investment banker, sole book-runner, and/or sole placement agent, at the Representative's sole discretion, for each and every future public equity offerings, during such 12-month period, for us, or any successor to or any subsidiary of us, on terms customary for the Representative. The Representative will have the sole right to determine whether any other broker-dealer shall have the right to participate in any such offering and the economic terms of any such participation.

Stabilization

In connection with this offering, the underwriters may engage in stabilizing transactions, syndicate-covering transactions, penalty bids and purchases to cover positions created by short sales.

Stabilizing transactions permit bids to purchase shares so long as the stabilizing bids do not exceed a specified maximum, and are engaged in for the purpose of preventing or retarding a decline in the market price of the shares while the offering is in progress.

Penalty bids permit the representative to reclaim a selling concession from a syndicate member when the shares originally sold by that syndicate member are purchased in stabilizing or syndicate covering transactions to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our shares of common stock or preventing or retarding a decline in the market price of our shares of common stock. As a result, the price of our common stock in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of our common stock. These transactions may be effected in the over-the-counter market or otherwise and, if commenced, may be discontinued at any time.

Passive Market Making

In connection with this offering, underwriters and selling group members may engage in passive market making transactions in our common stock on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M under the Exchange Act, during a period before the commencement of offers or sales of the shares and extending through the completion of the distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, then that bid must then be lowered when specified purchase limits are exceeded.

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Other Relationships

The underwriters and their affiliates have in the past provided, and may in the future provide, various advisory, investment banking, commercial banking, financial advisory, brokerage or other services to us and our affiliates, for which services they have received, and may in the future receive, customary fees and expense reimbursement. We have no present arrangements with any of the underwriters for any further services.

ThinkEquity served as underwriter for the company for its initial public offering which was consummated in October 2021 and received underwriting discounts and commissions of \$1,750,000, a non-accountable expense allowance of \$250,000 and reimbursement of actual out-of-pocket expenses. In addition, ThinkEquity and its designees received representative's warrants to purchase an aggregate of 312,500 shares of common stock, exercisable for a period of five years at an exercise price of \$5.00 per shares (125% of the initial public offering price).

The underwriters and their affiliates may, from time to time, engage in transactions with and perform services for us in the ordinary course of its business for which they may receive customary fees and reimbursements of expenses. In the ordinary course of their various business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own accounts and for the accounts of their customers and such investment and securities activities may involve securities and/or instruments of the Company. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling Restrictions

No action has been taken in any jurisdiction (except in the United States) that would permit a public offering of our common stock, or the possession, circulation or distribution of this prospectus or any other material relating to us or our common stock in any jurisdiction where action for that purpose is required. Accordingly, our common stock may not be offered or sold, directly or indirectly, and this prospectus or any other offering material or advertisements in connection with our common stock may be distributed or published, in or from any country or jurisdiction, except in compliance with any applicable rules and regulations of any such country or jurisdiction.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive, each a "Relevant Member State", with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, or the "Relevant Implementation Date", our securities will not be offered to the public in that Relevant Member State prior to the publication of a prospectus in relation to our securities that has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive, except that, with effect from and including the Relevant Implementation Date, an offer of our securities may be made to the public in that Relevant Member State at any time:

- to any legal entity that is a qualified investor as defined in the Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the manager for any such offer; or
- in any other circumstances which do not require the publication by the issuer of a prospectus pursuant to Article 3(2) of the Prospectus Directive, provided that no such offer of the securities shall require the issuer or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer of securities to the public" in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and securities to be offered so as to enable an investor to decide to purchase or subscribe securities, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in each Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom

In the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Directive) (i) who have professional experience in matters relating to investments falling within Article 19 (5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the Order), and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together, the relevant persons). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. In the United Kingdom, any investment or investment activity to which this document relates is only available to, and will be engaged in with, relevant persons.

Canada

The offering of our common stock in Canada is being made on a private placement basis in reliance on exemptions from the prospectus requirements under the securities laws of each applicable Canadian province and territory where our common stock may be offered and sold, and therein may only be made with investors that are purchasing, or deemed to be purchasing, as principal and that qualify as both an "accredited investor" as such term is defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario) and as a "permitted client" as such term is defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any offer and sale of our common stock in any province or territory of Canada may only be made through a dealer that is properly registered under the securities legislation of the applicable province or territory wherein our common stock is offered and/or sold or, alternatively, where such registration is not required.

Any resale of our common stock by an investor resident in Canada must be made in accordance with applicable Canadian securities laws, which require resales to be made in accordance with an exemption from, or in a transaction not subject to, prospectus requirements under applicable Canadian securities laws. These resale restrictions may under certain circumstances apply to resales of the common stock outside of Canada.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions

of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts ("NI 33-105"), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Upon receipt of this prospectus, each Québec investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the securities described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. Par la réception de ce document, chaque investisseur québécois confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Sullivan & Worcester LLP, New York, New York. Certain legal matters related to the offering will be passed upon for the underwriter by Blank Rome LLP, New York, New York.

EXPERTS

The consolidated financial statements of Marpai, Inc. as of December 31, 2022 and 2021, and for each of the years in the two-year period ended December 31, 2022, incorporated by reference in this prospectus have been audited by UHY LLP, independent registered public accounting firm, as set forth in their report thereon, which includes an explanatory paragraph as to Marpai, Inc.'s ability to continue as a going concern, appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act, of which this prospectus supplement forms a part. The rules and regulations of the SEC allow us to omit from this prospectus supplement and the accompanying prospectus certain information included in the registration statement. For further information about us and the securities we are offering under this prospectus supplement, you should refer to the registration statement and the exhibits and schedules filed with the registration statement. With respect to the statements contained in this prospectus supplement and the accompanying prospectus regarding the contents of any agreement or any other document, in each instance, the statement is qualified in all respects by the complete text of the agreement or document, a copy of which has been filed as an exhibit to the registration statement.

We file reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. The address of the SEC's website is www.sec.gov.

We maintain a corporate website at <https://www.marpaihealth.com>. Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

INFORMATION INCORPORATED BY REFERENCE

We are “incorporating by reference” certain documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information in the documents incorporated by reference is considered to be part of this prospectus supplement. Statements contained in documents that we file with the SEC and that are incorporated by reference in this prospectus supplement will automatically update and supersede information contained in this prospectus supplement, including information in previously filed documents or reports that have been incorporated by reference in this prospectus supplement, to the extent the new information differs from or is inconsistent with the old information.

We have filed the following documents with the SEC. These documents are incorporated herein by reference as of their respective dates of filing:

- our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2022, filed with the SEC on March 29, 2023;
- our Current Reports on Form 8-K, as filed with the SEC on [January 10, 2023](#), [January 13, 2023](#), [February 1, 2023](#) and [February 7, 2023](#); and
- The description of our Common Stock contained in our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2021, as filed with the SEC on March 30, 2022, including any amendments and reports filed for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus supplement and the accompanying prospectus and deemed to be part of this prospectus supplement and the accompanying prospectus from the date of the filing of such reports and documents.

You should rely only on the information incorporated by reference or provided in this prospectus supplement and the accompanying prospectus. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus supplement is accurate as of any date other than the date of this prospectus supplement or the date of the documents incorporated by reference in this prospectus supplement.

You may request a free copy of any of the documents incorporated by reference in this prospectus supplement and the accompanying prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents) by writing or telephoning us at the following address: 5701 East Hillsborough Ave., Suite 1417, Tampa, Florida 33610, Attention: Yoram Bibring, (646) 303-3483.

PROSPECTUS



\$100,000,000

**COMMON STOCK
WARRANTS
UNITS**

We may from time to time sell common stock and warrants to purchase common stock, and units of such securities, in one or more offerings for an aggregate initial offering amount of \$100,000,000. We refer to the common stock, the warrants to purchase common stock and the units collectively as the securities. This prospectus describes the general manner in which our securities may be offered using this prospectus. We may sell these securities to or through underwriters or dealers, directly to purchasers or through agents. We will set forth the names of any underwriters, dealers or agents in an accompanying prospectus supplement. You should carefully read this prospectus and any accompanying supplements before you decide to invest in any of these securities.

Our common stock is traded on the Nasdaq Capital Market, or Nasdaq, under the symbol "MRAL."

On January 19, 2023, the aggregate market value of our common stock held by non-affiliates was approximately \$12,157,915, based on 21,249,014 shares of common stock outstanding and a per share price of \$1.11 based on the closing sale price of our common stock on November 22, 2022. We have not offered any securities pursuant to General Instruction I.B.6 on Form S-3 during the prior 12 calendar month period that ends on and includes the date of this prospectus.

Investing in the securities involves risks. See "[Risk Factors](#)" beginning on page 4 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is January 30, 2023.

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You should rely only on the information contained in this prospectus, any prospectus supplement and the documents incorporated by reference, or to which we have referred you. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus and any prospectus supplement do not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this prospectus and any prospectus supplement in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer or solicitation of an offer in such jurisdiction. You should not assume that the information contained in this prospectus, any prospectus supplement or any document incorporated by reference is accurate as of any date other than the date on the front cover of the applicable document.

Neither the delivery of this prospectus nor any distribution of securities pursuant to this prospectus shall, under any circumstances, create any implication that there has been no change in the information set forth or incorporated by reference into this prospectus or in our affairs since the date of this prospectus. Our business, financial condition, results of operations and prospects may have changed since such date.

When used herein, unless the context requires otherwise, references to the “Company,” “we,” “our” and “us” refer to Marpai, Inc., a Delaware corporation, collectively with its wholly-owned subsidiaries, Marpai Captive, Inc. (“Marpai Captive”), Marpai Administrators LLC (“Marpai Administrators”) Maestro Health, LLC (“Maestro Health”), and Marpai Health, Inc. (“Marpai Health”) and its wholly owned Israeli subsidiary EYME Technologies, Ltd. (“EYME”), unless otherwise indicated or required by the context.

All dollar amounts refer to U.S. dollars unless otherwise indicated.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under this shelf registration process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$100,000,000. This prospectus describes the securities we may offer and the general manner in which our securities may be offered by this prospectus. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also add, update or change in the prospectus supplement any of the information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement, provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus or any prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement.

OUR COMPANY

This summary highlights information contained in the documents incorporated herein by reference. Before making an investment decision, you should read the entire prospectus, and our other filings with the Securities and Exchange Commission, or the SEC, including those filings incorporated herein by reference, carefully, including the sections entitled “Risk Factors” and “Cautionary Statement Regarding Forward-Looking Statements.”

We are a technology-driven healthcare payer, which uses A.I. to predict and help prevent costly events for our members, and in turn lower our clients' health care costs. Our mission is to positively change healthcare for the benefit of (i) our clients who are self-insured employers that pay for their employees' healthcare benefits and engage us to administer the latter's healthcare claims, and we refer to them as our “Clients”; (ii) employees who receive these healthcare benefits from our Clients, and we refer to them as our “Members”, and (iii) healthcare providers including, doctors, doctor groups, hospitals, clinics, and any other entities providing healthcare services or products, and we refer to them as the “Providers.” We are creating the healthcare payer of the future for self-insured employers in the U.S., what we refer to as the “Payer of the Future.” We provide administrative services, and act as Third-Party-Administrator to self-insured employers who provide healthcare benefits to their employees. Most of our Clients are small and medium-sized companies as well as local government entities. Currently, we have over 60 Clients. We provide services to a total of over 20,000 of our clients' employees, and including their spouses and dependents, we serve a total of over 40,000 members in 44 states in addition to the District of Columbia.

Our address is 5701 East Hillsborough Ave., Suite 1417, Tampa, Florida 33610 5428 and our telephone number is (646) 303 3483. Our corporate website is: www.marpaihealth.com. The content of our website shall not be deemed incorporated by reference in this prospectus.

Recent Developments

On August 4, 2022, we entered into a Membership Interest Purchase Agreement (the “Agreement”) with XL America Inc., a Delaware corporation, Seaview Re Holdings Inc., a Delaware corporation (XL America Inc. and Seaview Re Holdings Inc. are collectively referred to herein as the “Equity Sellers”), and AXA S.A., a French société anonyme (the “Debt Seller,” and, together with the Equity Sellers, collectively, the “Sellers”). Pursuant to the terms of the Agreement, we agreed to acquire all of the membership interests (the “Units”) of Maestro Health, LLC (“Maestro Health”), a Delaware limited liability company (the “Acquisition”). The Equity Sellers own an aggregate of 100% of the issued and outstanding Units of Maestro Health. We closed the Acquisition on October 31, 2022.

Maestro Health is a third-party administrator for employee health and benefits, which offers an end-to-end health plan solution, integrating care management and cost containment for its customers. The Agreement contains representations and warranties customary for transactions of this nature negotiated between sophisticated purchasers and sellers acting at arm's length, certain of which are qualified as to materiality and knowledge and subject to reasonable exceptions. The closing of the Acquisition is subject to certain customary closing conditions as contained in the Agreement, including: (i) that the Equity Sellers shall have sold, assigned, transferred, conveyed and delivered to the Company all of the Equity Sellers' rights, title, and interests in and to all of the Units; and (ii) the Debt Seller shall have irrevocably transferred and assigned to us all of the Debt Seller's rights and obligations with respect to receiving payments under that certain Term Loan Agreement, dated May 11, 2022, by and between the Debt Seller and Maestro Health, in the principal amount of \$59,900,000 (the “AXA Note”).

In consideration for our acquisition of the Units, we have agreed to pay the Sellers an aggregate purchase price (the “Purchase Price”) of \$19,900,000 determined on the closing date (the “Base Purchase Price”), which shall be payable on or before April 1, 2024 (the “Payment Date”), and shall accrue interest until such time that is paid, such that on the Payment Date the Purchase Price, plus all accrued and unpaid interest, shall equal \$22,100,000 (for clarity, the Base Purchase Price shall be adjusted, in each case, pursuant to the terms of the Agreement). We agreed to pay the Equity Sellers an amount of \$100 with the balance of the Purchase Price to be paid to the Debt Seller for the repayment of the AXA Note. In no event will we be responsible for any further payments for the repayment of the AXA Note other than the repayment of the Purchase Price as provided in the Agreement. Following the Payment Date, any unpaid portion of the Purchase Price shall accrue interest at ten percent (10%) per annum, compounding annually, calculated on the basis of a 365-day year for the actual number of days elapsed (the “Specified Rate”), and shall be repaid as promptly as practicable to the Debt Seller. In addition, in the event we or our subsidiaries receive proceeds from the sale of any securities in a private placement or public offering of securities (each an “Offering”), then we shall pay to the Debt Seller an amount equal to thirty-five percent (35%) of the net proceeds of the Offering no later than sixty (60) days after the closing of Offering until such time as the Purchase Price has been paid in full.

Notwithstanding the foregoing, we shall be required to make accumulated annual payments to the Debt Seller, representing the Purchase Price, as follows: (i) \$5,000,000 to be paid by December 31, 2024, (ii) \$11,000,000 to be paid by December 31, 2025, and (iii) \$9,000,000 to be paid by December 31, 2026. In addition, we are obligated to pay the full amount of any remaining unpaid

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Purchase Price (inclusive of any accrued interest at the Specified Rate) by no later than year-end 2027, and in no event shall we be required to pay total cash consideration equal to more than the aggregate amount of the Purchase Price (as adjusted pursuant to the terms of the Agreement).

RISK FACTORS

An investment in our securities involves significant risks. You should carefully consider the risk factors contained in any prospectus supplement and in our filings with the SEC, including our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, as well as all of the information contained in this prospectus, any prospectus supplement and the documents incorporated by reference herein or therein, before you decide to invest in our securities. Our business, prospects, financial condition and results of operations may be materially and adversely affected as a result of any of such risks. The value of our Common Stock could decline as a result of any of these risks. You could lose all or part of your investment in our securities. Some of our statements in sections entitled “*Risk Factors*” are forward-looking statements. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business, prospects, financial condition and results of operations.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the documents we incorporate by reference contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and other federal securities laws, regarding our business, clinical trials, financial condition, expenditures, results of operations and prospects. Words such as “expects,” “anticipates,” “intends,” “plans,” “planned expenditures,” “believes,” “seeks,” “estimates” and similar expressions or variations of such words are intended to identify forward-looking statements, but are not deemed to represent an all-inclusive means of identifying forward-looking statements as denoted in this prospectus, any prospectus supplement and the documents we incorporate by reference. Additionally, statements concerning future matters are forward-looking statements.

Although forward-looking statements in this prospectus, any prospectus supplement and the documents we incorporate by reference reflect the good faith judgment of our management, such statements can only be based on facts and factors known by us as of such date. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include, without limitation, those specifically addressed under the heading “Risk Factors” herein and in the documents we incorporate by reference, as well as those discussed elsewhere in this prospectus and any prospectus supplement. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this prospectus, any prospectus supplement or the respective documents incorporated by reference, as applicable. Except as required by law, we undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of such forward-looking statements. Readers are urged to carefully review and consider the various disclosures made throughout the entirety of this prospectus, any prospectus supplement and the documents incorporated by reference, which attempt to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

USE OF PROCEEDS

Unless we otherwise indicate in the applicable prospectus supplement, we currently intend to use the net proceeds from the sale of the securities for research and development of our products and for general working capital purposes.

We may set forth additional information on the use of net proceeds from the sale of securities we offer under this prospectus in a prospectus supplement relating to the specific offering. Pending the application of the net proceeds, we intend to invest the net proceeds in bank deposits or investment-grade and interest-bearing securities subject to any investment policies our management may determine from time to time.

THE SECURITIES WE MAY OFFER

The descriptions of the securities contained in this prospectus, together with any applicable prospectus supplement, summarize the material terms and provisions of the various types of securities that we may offer. We will describe in any applicable prospectus supplement relating to any securities the particular terms of the securities offered by that prospectus supplement. If we so indicate in any applicable prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We may also include in any prospectus supplement information, where applicable, about material U.S. federal income tax consequences relating to the securities, and the securities exchange or market, if any, on which the securities will be listed.

We may sell from time to time, in one or more offerings, one or more of the following securities:

- common stock;
- warrants to purchase common stock; and
- units of the securities mentioned above.

The total initial offering amount of all securities that we may issue in these offerings will not exceed \$100,000,000.

DESCRIPTION OF CAPITAL STOCK

The following summary is a description of the material terms of our share capital. We encourage you to read our Certificate of Incorporation, as amended, and Bylaws which have been filed with the SEC, as well as the provisions of the Delaware General Corporation Law.

General

Our authorized capital stock currently consists of 227,791,050 shares of capital stock, par value \$0.0001 per share, of which all are designated as Class A common stock. The authorized and unissued shares of common stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be listed. Unless approval of our stockholders is so required, our board of directors does not intend to seek stockholder approval for the issuance and sale of our common stock.

Common Stock

The holders of our common stock are entitled to one vote per share. Our Certificate of Incorporation does not provide for cumulative voting. At each annual meeting of stockholders, directors elected to succeed those directors whose terms expire are elected for a term of office to expire at the succeeding annual meeting of stockholders after their election. The holders of our common stock are entitled to receive ratably such dividends, if any, as may be declared by our board of directors out of legally available funds; however, the current policy of our board of directors is to retain earnings, if any, for operations and growth. Upon liquidation, dissolution or winding-up, the holders of our common stock are entitled to share ratably in all assets that are legally available for distribution.

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company, LLC. Their address is 6201 15th Avenue, 2nd Floor, Brooklyn, NY 11219, telephone: (718) 921-8300, (800) 937-5449.

Meetings of Stockholders

An annual meeting of our stockholders shall be held on the day and at the time as may be set by our Board, at which the stockholders shall elect the board of directors and transact such other business as may properly be brought before the meeting. All annual meetings of stockholders are to be held at our registered office in the State of Delaware or at such other place as may be determined by our Board.

Special meetings of our stockholders may be called for any purpose or purposes, unless otherwise prescribed by statute, by our Board of Directors, the Chairman of the Board or the Chief Executive Officer, President or other executive officer of the Company, or at the request, in writing, of the stockholders of record, and only of record, owning not less than one-quarter of the entire capital stock of the Company issued and outstanding and entitled to vote. Business transacted at any special meeting of stockholders shall be confined to the purpose or purposes stated in the notice for such meeting.

Anti-Takeover Effect of Delaware Law, Certain Charter and Bylaw Provisions

We are subject to Section 203 of the Delaware General Corporation Law. Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (i) shares owned by persons who are directors and also officers and (ii) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

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Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with, or controlling, or controlled by, the entity or person. The term “owner” is broadly defined to include any person that, individually, with or through that person’s affiliates or associates, among other things, beneficially owns the stock, or has the right to acquire the stock, whether or not the right is immediately exercisable, under any agreement or understanding or upon the exercise of warrants or options or otherwise or has the right to vote the stock under any agreement or understanding, or has an agreement or understanding with the beneficial owner of the stock for the purpose of acquiring, holding, voting or disposing of the stock.

The restrictions in Section 203 do not apply to corporations that have elected, in the manner provided in Section 203, not to be subject to Section 203 of the Delaware General Corporation Law or, with certain exceptions, which do not have a class of voting stock that is listed on a national securities exchange or held of record by more than 2,000 stockholders. Our Certificate of Incorporation and bylaws do not opt out of Section 203.

Section 203 could delay or prohibit mergers or other takeover or change in control attempts with respect to us and, accordingly, may discourage attempts to acquire us even though such a transaction may offer our stockholders the opportunity to sell their stock at a price above the prevailing market price.

Certificate of Incorporation and Bylaws

Provisions of our Certificate of Incorporation and bylaws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our Certificate of Incorporation and bylaws:

- provide that the authorized number of directors shall be fixed from time to time by resolution adopted by a majority of the voting power of the then-outstanding shares of our capital stock then entitled to vote at an election of directors voting together as a single class;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by a majority of the directors then in office, though less than a quorum, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify. A vacancy created by the removal of a director by the stockholders may be filled by the stockholders;
- do not provide for cumulative voting rights (therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose);
- provide that special meetings of our stockholders may be called by resolution of our board of directors, or by our Chief Executive Officer/President, or by the holders of not less than one-quarter of all of the shares entitled to vote at the meeting; and
- set forth an advance notice procedure with regard to the nomination, other than by or at the direction of our board of directors, of candidates for election as directors and with regard to business to be brought before a meeting of stockholders.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company, LLC. Their address is 6201 15th Avenue, 2nd Floor, Brooklyn, NY 11219, telephone: (718) 921-8300, (800) 937-5449.

Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol “MRAI.”

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms we describe below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement of which this prospectus forms a part.

General

We may issue warrants for the purchase of common stock in one or more series. We may issue warrants independently or together with common stock, and the warrants may be attached to or separate from the common stock.

We will evidence each series of warrants by warrant certificates that we will issue under a separate agreement or by warrant agreements that we will enter into directly with the purchasers of the warrants. If we evidence warrants by warrant certificates, we will enter into a warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent, if any, in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased or exercised;
- if applicable, the terms of the common stock with which the warrants are issued and the number of warrants issued with such common stock;
- if applicable, the date on and after which the warrants and the related common stock will be separately transferable;
- the number of shares of common stock purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the manner in which the warrants may be exercised, which may include by cashless exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of shares of common stock issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- the material U.S. federal income tax consequences of holding or exercising the warrants;
- the terms of the common stock issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the common stock purchasable upon such exercise, including the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the number of shares of common stock that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to 5:00 P.M., Eastern U.S. time, on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering to the warrant agent or us the warrant certificate or warrant agreement representing the warrants to be exercised together with specified information, and by paying the required amount to the warrant agent or us in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate or in the warrant agreement and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent or us in connection with such exercise.

Upon receipt of the required payment and the warrant certificate or the warrant agreement, as applicable, properly completed and duly executed at the corporate trust office of the warrant agent, if any, at our offices or at any other office indicated in the applicable prospectus supplement, we will issue and deliver the common stock purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate or warrant agreement are exercised, then we will issue a new warrant certificate or warrant agreement for the remaining amount of warrants.

Enforceability of Rights by Holders of Warrants

If we appoint a warrant agent, any warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

No prospectus supplement will be delivered in connection with the issuance of these shares of common stock pursuant to the exercise of such warrants.

DESCRIPTION OF UNITS

We may issue, in one or more series, units consisting of common stock and warrants for the purchase of common stock. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus forms a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summary of material terms and provisions of the units is subject to, and qualified in its entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplement related to the particular series of units that we may offer under this prospectus and the complete unit agreement and any supplemental agreements that contain the terms of the units.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- the designation and terms of the units, including whether and under what circumstances the securities comprising the units may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described herein; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or the securities comprising the units.

The provisions described in this section, as well as those described under “*Description of Capital Stock*” and “*Description of Warrants*,” will apply to each unit and to any common stock or warrant included in each unit, respectively.

We may issue units in such amounts and in such distinct series as we determine.

PLAN OF DISTRIBUTION

We may sell the securities being offered hereby in one or more of the following ways from time to time:

- through agents to the public or to investors;
- to one or more underwriters for resale to the public or to investors;
- to the extent we are eligible, in “at the market offerings,” within the meaning of Rule 415(a)(4) of the Securities Act of 1933, as amended, or the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;
- directly to investors in privately negotiated transactions;
- directly to a purchaser pursuant to what is known as an “equity line of credit” as described below; or
- through a combination of these methods of sale.

The securities that we distribute by any of these methods may be sold, in one or more transactions, at:

- a fixed price or prices, which may be changed;
- market prices prevailing at the time of sale;
- prices related to prevailing market prices;
- upon the exercise of warrants; or
- negotiated prices.

The accompanying prospectus supplement will describe the terms of the offering of our securities, including:

- the name or names of any agents or underwriters;
- any securities exchange or market on which the common stock may be listed;
- the purchase price and commission, if any, to be paid in connection with the sale of the securities being offered and the proceeds we will receive from the sale;
- any options pursuant to which underwriters may purchase additional securities from us;
- any underwriting discounts or agency fees and other items constituting underwriters’ or agents’ compensation;
- any public offering price; and
- any discounts or concessions allowed or reallocated or paid to dealers.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of the sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all the securities offered by the prospectus supplement. We may change from time to time the public offering price and any discounts or concessions allowed or reallocated or paid to dealers.

If we use a dealer in the sale of the securities being offered pursuant to this prospectus or any prospectus supplement, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

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We may sell the securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, any agent will act on a best-efforts basis for the period of its appointment.

We may also sell securities pursuant to an “equity line of credit.” In such event, we will enter into a common stock purchase agreement with the purchaser to be named therein, which will be described in a Current Report on Form 8-K that we will file with the SEC. In that Form 8-K, we will describe the total amount of securities that we may require the purchaser to purchase under the purchase agreement and the other terms of purchase, and any rights that the purchaser is granted to purchase securities from us. In addition to our issuance of shares of common stock to the equity line purchaser pursuant to the purchase agreement, this prospectus (and the applicable prospectus supplement or post-effective amendment to the registration statement of which this prospectus forms a part) also covers the resale of those shares from time to time by the equity line purchaser to the public. The equity line purchaser will be considered an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act. Its resales may be effected through a number of methods, including without limitation, ordinary brokerage transactions and transactions in which the broker solicits purchasers and block trades in which the broker or dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction. The equity line purchaser will be bound by various anti-manipulation rules of the SEC and may not, for example, engage in any stabilization activity in connection with its resales of our securities and may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities other than as permitted under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

We may sell our securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of our common stock, and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may provide underwriters and agents with indemnification against civil liabilities related to offerings pursuant to this prospectus, including liabilities under the Securities Act, or contribution with respect to payments that the underwriters or agents may make with respect to these liabilities. Underwriters and agents may engage in transactions with, or perform services for, us in the ordinary course of business. We will describe such relationships in the prospectus supplement naming the underwriter or agent and the nature of any such relationship.

Rules of the SEC may limit the ability of any underwriters to bid for or purchase securities before the distribution of the shares of common stock is completed. However, underwriters may engage in the following activities in accordance with the rules:

- *Stabilizing transactions* — Underwriters may make bids or purchases for the purpose of pegging, fixing or maintaining the price of the shares, so long as stabilizing bids do not exceed a specified maximum.
- *Options to purchase additional stock and syndicate covering transactions* — Underwriters may sell more shares of our common stock than the number of shares that they have committed to purchase in any underwritten offering. This creates a short position for the underwriters. This short position may involve either “covered” short sales or “naked” short sales. Covered short sales are short sales made in an amount not greater than the underwriters’ option to purchase additional shares in any underwritten offering. The underwriters may close out any covered short position either by exercising their option or by purchasing shares in the open market. To determine how they will close the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market, as compared to the price at which they may purchase shares through their option. Naked short sales are short sales in excess of the option. The underwriters must close out any naked position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that, in the open market after pricing, there may be downward pressure on the price of the shares that could adversely affect investors who purchase shares in the offering.
- *Penalty bids* — If underwriters purchase shares in the open market in a stabilizing transaction or syndicate covering transaction, they may reclaim a selling concession from other underwriters and selling group members who sold those shares as part of the offering.

Similar to other purchase transactions, an underwriter’s purchases to cover the syndicate short sales or to stabilize the market price of our common stock may have the effect of raising or maintaining the market price of our common stock or preventing or mitigating a decline in the market price of our common stock. As a result, the price of the shares of our common stock may be higher than the price that might otherwise exist in the open market. The imposition of a penalty bid might also have an effect on the price of shares if it discourages resales of the shares.

If commenced, the underwriters may discontinue any of these activities at any time.

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Our common stock is traded on Nasdaq. One or more underwriters may make a market in our common stock, but the underwriters will not be obligated to do so and may discontinue market making at any time without notice. We cannot give any assurance as to liquidity of the trading market for our common stock.

Any underwriters who are qualified market makers on Nasdaq may engage in passive market making transactions in that market in the common stock in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

LEGAL MATTERS

Sullivan & Worcester LLP, New York, New York, passed upon the validity of the securities offered hereby.

EXPERTS

The consolidated financial statements of Marpai, Inc. as of December 31, 2021 and 2020, and for each of the years in the two-year period ended December 31, 2021, incorporated by reference in this prospectus have been audited by UHY LLP, independent registered public accounting firm, as set forth in their report thereon, appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are filing a registration statement on Form S-3 under the Securities Act with the SEC with respect to the shares of our common stock, warrants and units offered through this prospectus. This prospectus is filed as a part of that registration statement and does not contain all of the information contained in the registration statement and exhibits. We refer you to our registration statement and each exhibit attached to it for a more complete description of matters involving us, and the statements we have made in this prospectus are qualified in their entirety by reference to these additional materials.

We are subject to the reporting and information requirements of the Exchange Act and as a result file periodic reports and other information with the SEC. You can review our SEC filings and the registration statement by accessing the SEC's internet site at <http://www.sec.gov>. We maintain a corporate website at <https://www.marpaihealth.com>. Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

INCORPORATION OF DOCUMENTS BY REFERENCE

We are “incorporating by reference” certain documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information in the documents incorporated by reference is considered to be part of this prospectus. Statements contained in documents that we file with the SEC and that are incorporated by reference in this prospectus will automatically update and supersede information contained in this prospectus, including information in previously filed documents or reports that have been incorporated by reference in this prospectus, to the extent the new information differs from or is inconsistent with the old information.

We have filed the following documents with the SEC. These documents are incorporated herein by reference as of their respective dates of filing:

- (1) Our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2021, as filed with the SEC on March 30, 2022;
- (2) Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2022, June 30, 2022 and September 30, 2022, filed with the SEC on [May 11, 2022](#), [August 15, 2022](#) and [November 9, 2022](#), respectively;
- (3) Our Current Reports on Form 8-K, as filed with the SEC on [January 24, 2022](#), [February 22, 2022](#), [March 18, 2022](#), [March 31, 2022](#), [April 7, 2022](#), [May 11, 2022](#), [May 13, 2022](#), [May 31, 2022](#), [August 4, 2022](#), [August 9, 2022](#), [August 9, 2022](#), [August 10, 2022](#), [August 25, 2022](#), [October 14, 2022](#), [November 1, 2022](#) (as amended by our Report on Form 8-K/A filed on [January 10, 2023](#)), [November 9, 2022](#), [December 22, 2022](#), and [January 13, 2023](#); and
- (4) The description of our Common Stock contained in our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2021, as filed with the SEC on March 30, 2022, including any amendments and reports filed for the purpose of updating such description.

All documents filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (1) after the date of the filing of the registration statement of which this prospectus forms a part and prior to its effectiveness and (2) until all of the securities to which this prospectus relates has been sold or the offering is otherwise terminated, except in each case for information contained in any such filing where we indicate that such information is being furnished and is not to be considered “filed” under the Exchange Act, will be deemed to be incorporated by reference in this prospectus and any accompanying prospectus supplement and to be a part hereof from the date of filing of such documents.

We will provide a copy of the documents we incorporate by reference, at no cost, to any person who receives this prospectus. To request a copy of any or all of these documents, you should write or telephone us at 5701 East Hillsborough Ave., Suite 1417, Tampa, Florida 33610, Attention: Yoram Bibring, (646) 303-3483.

Shares of Common Stock



Marpai, Inc.

PRELIMINARY PROSPECTUS SUPPLEMENT

ThinkEquity

, 2023
