UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark one)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2022

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____.

Commission file number: 000-24477

DIFFUSION PHARMACEUTICALS INC.
(Exact name of registrant as specified in its charter)

Delaware	**30-0645032**
(State of other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

300 East Main Street, Suite 201
Charlottesville, VA 22902
(Address of principal executive offices, including zip code)

(434) 220-0718
(Registrant's telephone number including area code)

Title of Each Class	**Trading Symbol(s)**	**Name of Each Exchange on Which Registered**
Common Stock, par value $0.001 per share	DFFN	NASDAQ Capital Market

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐ Accelerated filer ☐
Non-accelerated filer ☒ Smaller reporting company ☒
Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).Yes ☐ No ☒

The number of shares of common stock outstanding at August 10, 2022 was 2,039,120 shares.

DIFFUSION PHARMACEUTICALS INC.
FORM 10-Q
JUNE 30, 2022

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Note Regarding Company References and Other Defined Terms

Unless the context otherwise requires, in this Quarterly Report, (i) references to the "Company," "we," "our" or "us" refer to Diffusion Pharmaceuticals Inc. and its subsidiaries and (ii) references to "common stock" refer to the common stock, par value $0.001 per share, of the Company and all share and per share amounts related to our common stock give effect to our 1-for-50 reverse stock split effected April 18, 2022. We have also used several other defined terms in this Quarterly Report, many of which are explained or defined below:

Term	Definition
2015 Equity Plan	Diffusion Pharmaceuticals Inc. 2015 Equity Incentive Plan, as amended
2022 Sales Agreement	our At-The-Market Sales Agreement with BTIG, as sales agent, dated July 22, 2022
401(k) Plan	Diffusion Pharmaceuticals Inc. 401(k) Defined Contribution Plan
Altitude Trial	our Phase 1b clinical trial evaluating TSC in normal healthy volunteers subjected to incremental levels of physical exertion while exposed to hypoxic and hypobaric conditions, or "simulated altitude," completed in April 2022
Annual Report	our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 18, 2022
ASC	Accounting Standard Codification of the FASB
ASC 815-40	ASC 815-40, *Derivatives and Hedging, Contracts in an Entity's Own Equity*
BTIG	BTIG, LLC
CRO	contract research organization
DLCO	diffusion capacity of lung for carbon monoxide
Exchange Act	Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FDA	U.S. Food and Drug Administration
G&A	general and administrative
GAAP	U.S. generally accepted accounting principles
GBM	glioblastoma multiforme brain cancer
Hypoxic Solid Tumor Program	our ongoing clinical development program to evaluate TSC as an adjunct to standard of care therapy for hypoxic solid tumors, first announced in November 2021, including Study 200-208
ILD	interstitial lung disease
ILD-DLCO Trial	our Phase 2a clinical trial evaluating TSC in patients with previously diagnosed ILD who have a baseline DLCO test result that is abnormal using DLCO as a surrogate measure of oxygen transfer efficiency, terminated in August 2022
Nasdaq	Nasdaq Stock Market, LLC
NOL	net operating loss
Oxygenation Trials	collectively, the TCOM Trial, the Altitude Trial, and the ILD-DLCO Trial
PET	positron emission topography
Quarterly Report	this Quarterly Report on Form 10-Q
R&D	research and development
Regulation S-K	Regulation S-K promulgated under the Securities Act of 1933, as amended
Reverse Stock Split	the reclassification and combination of all shares of our common stock outstanding at a ratio of one-for-50 approved by our stockholders at the Special Meeting and effective April 18, 2022
SEC	U.S. Securities and Exchange Commission

Series C Certificate	the Certificate of Designation of Preferences, Rights, and Limitations of the Series C Preferred Stock, filed with the Secretary of State of the State of Delaware on March 18, 2022
Series C Preferred Stock	our previously outstanding Series C Convertible Preferred Stock, par value $0.001 per share
Special Meeting	the special meeting of our stockholders held on April 18, 2022
Study 200-208	our Phase 2 clinical trial evaluating the effects of TSC in patients with newly diagnosed glioblastoma multiforme, which we expect to initiate by the end of 2022 and in which we anticipate dosing the first patient in the first quarter of 2023
TCOM	transcutaneous oxygen measurement
TCOM Trial	our Phase 1b clinical trial evaluating the effects of TSC on peripheral tissue oxygenation in healthy normal volunteers using a TCOM device, completed in March 2021
TSC	trans sodium crocetinate
U.S.	United States

Note Regarding Forward-Looking Statements

This Quarterly Report (including, for purposes of this Note Regarding Forward-Looking Statements, any information or documents incorporated herein by reference) includes express and implied forward-looking statements. By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics and industry change, and depend on the economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. Although we believe that we have a reasonable basis for each forward-looking statement contained in this Quarterly Report, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition, liquidity, and prospects may differ materially from the forward-looking statements contained in this Quarterly Report. In addition, even if our results of operations, financial condition, liquidity, and prospects are consistent with the forward-looking statements contained in this Quarterly Report, they may not be predictive of actual results or reflect unanticipated developments in future periods.

Forward-looking statements appear in a number of places throughout this Quarterly Report . We may, in some cases, use terms such as “believes,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “may,” “could,” “might,” “will,” “should,” “approximately,” or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. Forward-looking statements also include statements regarding our intentions, beliefs, projections, outlook, analyses or expectations concerning, among other things:

- the success and timing of our clinical and preclinical studies, including our ability to enroll subjects in our ongoing and planned clinical studies at anticipated rates and our ability to manufacture an adequate amount of drug supply for our studies;
- obtaining and maintaining intellectual property protection for our product candidates and our proprietary technology;
- the performance of third parties, including contract research organizations, manufacturers, suppliers, and outside consultants, to whom we outsource certain operational, staff and other functions;
- our ability to obtain additional financing in the future and continue as a going concern;
- our ability to obtain and maintain regulatory approval of our product candidates and, if approved, our products, including the labeling under any approval we may obtain;
- our plans and ability to develop and commercialize our product candidates and the outcomes of our research and development activities;
- the outcome of our ongoing business development activities or the impact of a transaction, if any, on our planned clinical development program for TSC, our capital structure, and our expenses;
- our estimates regarding expenses, future revenues, capital requirements, and needs for additional financing;
- our failure to recruit or retain key scientific or management personnel or to retain our executive officers;
- the accuracy of our estimates of the size and characteristics of the potential markets for our product candidates, the rate and degree of market acceptance of any of our product candidates that may be approved in the future, and our ability to serve those markets;

- the success of products that are or may become available which also target the potential markets for our product candidates;
- our ability to operate our business without infringing the intellectual property rights of others and the potential for others to infringe upon our intellectual property rights;
- any significant breakdown, infiltration, or interruption of our information technology systems and infrastructure;
- recently enacted and future legislation related to the healthcare system, including trends towards managed care and healthcare cost containment, the impact of any significant spending reductions or cost controls affecting publicly funded or subsidized healthcare programs, or any replacement, repeal, modification, or invalidation of some or all of the provisions of the Affordable Care Act;
- other regulatory developments in the U.S., E.U., and other foreign jurisdictions;
- our ability to satisfy the continued listing requirements of the NASDAQ Capital Market or any other exchange on which our securities may trade in the future;
- uncertainties related to general economic, political, business, industry, and market conditions, including the ongoing COVID-19 pandemic, inflationary pressures, and geopolitical conflicts; and
- other risks and uncertainties, including those discussed under the heading "Risk Factors" in our Annual Report and elsewhere in our other public filings.

As a result of these and other factors, known and unknown, actual results could differ materially from our intentions, beliefs, projections, outlook, analyses, or expectations expressed in any forward-looking statements in this Quarterly Report. Accordingly, we cannot assure you that the forward-looking statements contained or incorporated by reference in this Quarterly Report will prove to be accurate or that any such inaccuracy will not be material. You should also understand that it is not possible to predict or identify all such factors, and you should not consider any such list to be a complete set of all potential risks or uncertainties. In light of the foregoing and the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. For all forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

Any forward-looking statements that we make in this Quarterly Report speak only as of the date of such statement, and, except as required by applicable law or by the rules and regulations of the SEC, we undertake no obligation to update such statements to reflect events or circumstances after the date of this Quarterly Report or to reflect the occurrence of unanticipated events. Comparisons of current and any prior period results are not intended to express any ongoing or future trends or indications of future performance, unless explicitly expressed as such, and should only be viewed as historical data.

Note Regarding Trademarks, Trade Names and Service Marks

This Quarterly Report contains certain trademarks, trade names, and service marks of ours, including “DIFFUSIO2N.” All other trade names, trademarks, and service marks appearing in this Quarterly Report are, to the knowledge of Diffusion, the property of their respective owners. To the extent any such terms appear without the trade name, trademark, or service mark notice, such presentation is for convenience only and should not be construed as being used in a descriptive or generic sense.

PART I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Diffusion Pharmaceuticals Inc.
Consolidated Balance Sheets
(unaudited)

	June 30, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 5,965,726	$ 37,313,558
Marketable securities	22,574,681	—
Prepaid expenses, deposits and other current assets	643,618	510,015
Total current assets	29,184,025	37,823,573
Other assets	—	15,578
Total assets	$ 29,184,025	$ 37,839,151
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	846,032	947,495
Accrued expenses and other current liabilities	1,668,990	1,980,189
Total current liabilities	2,515,022	2,927,684
Commitments and Contingencies (Note 9)		
Stockholders' Equity:		
Common stock, $0.001 par value: 1,000,000,000 shares authorized: 2,038,914 and 2,038,185 shares issued and outstanding at June 30, 2022 and December 31, 2021, respectively	2,038	2,038
Additional paid-in capital	165,475,801	164,914,540
Accumulated other comprehensive loss	(86,583)	—
Accumulated deficit	(138,722,253)	(130,005,111)
Total stockholders' equity	26,669,003	34,911,467
Total liabilities and stockholders' equity	$ 29,184,025	$ 37,839,151

See accompanying notes to unaudited interim consolidated financial statements.

Diffusion Pharmaceuticals Inc.
Consolidated Statements of Operations and Comprehensive Loss
(unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	**2021**	**2022**	**2021**
Operating expenses:				
Research and development	$ 2,108,553	$ 1,972,673	$ 4,534,451	$ 4,889,051
General and administrative	2,137,326	1,836,773	4,265,878	3,580,283
Depreciation	—	23,755	—	48,202
Loss from operations	4,245,879	3,833,201	8,800,329	8,517,536
Interest income	(55,378)	(55,228)	(83,187)	(95,644)
Net loss	$ (4,190,501)	$ (3,777,973)	$ (8,717,142)	$ (8,421,892)
Per share information:				
Net loss per share of common stock, basic and diluted	$ (2.06)	$ (1.85)	$ (4.28)	$ (4.54)
Weighted average shares outstanding, basic and diluted	2,038,727	2,037,978	2,038,529	1,854,161
Comprehensive loss:				
Net loss	$ (4,190,501)	$ (3,777,973)	$ (8,717,142)	$ (8,421,892)
Unrealized loss on marketable securities	(36,925)	—	(86,583)	—
Comprehensive loss:	(4,227,426)	(3,777,973)	(8,803,725)	(8,421,892)

See accompanying notes to unaudited interim consolidated financial statements.

Diffusion Pharmaceuticals Inc.
Consolidated Statement of Changes in Stockholders' Equity
Three and Six Months Ended June 30, 2021 and 2022
(unaudited)

	Series C Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
Balance at April 1, 2022	10,000	$ 5,000	2,038,392	$ 2,038	$ 165,192,671	$ (49,658)	$ (134,531,752)	$ 30,618,299
Conversion of Series C preferred stock to common stock	(10,000)	(5,000)	200	—	5,000	—	—	—
Stock-based compensation expense and vesting of restricted stock units	—	—	322	—	278,130	—	—	278,130
Unrealized loss on marketable securities	—	—	—	—	—	(36,925)	—	(36,925)
Net loss	—	—	—	—	—	—	(4,190,501)	(4,190,501)
Balance at June 30, 2022	—	$ —	2,038,914	$ 2,038	$ 165,475,801	$ (86,583)	$ (138,722,253)	$ 26,669,003

	Series C Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
Balance at January 1, 2022	—	$ —	2,038,185	$ 2,038	$ 164,914,540	$ —	$ (130,005,111)	$ 34,911,467
Sale of Series C preferred stock to related parties	10,000	5,000	—	—	—	—	—	5,000
Conversion of Series C preferred stock to common stock	(10,000)	(5,000)	200	—	5,000	—	—	—
Stock-based compensation expense and vesting of restricted stock units	—	—	529	—	556,261	—	—	556,261
Unrealized loss on marketable securities	—	—	—	—	—	(86,583)	—	(86,583)
Net loss	—	—	—	—	—	—	(8,717,142)	(8,717,142)
Balance at June 30, 2022	—	$ —	2,038,914	$ 2,038	$ 165,475,801	$ (86,583)	$ (138,722,253)	$ 26,669,003

	Stockholders' Equity				
	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balance at April 1, 2021	2,037,978	$ 2,038	$ 164,198,560	$ (110,553,303)	$ 53,647,295
Sale of common stock and warrants, net of issuance costs	—	—	—	—	—
Issuance of common stock upon exercise of warrants	—	—	—	—	—
Stock-based compensation expense	—	—	297,280	—	297,280
Net loss	—	—	—	(3,777,973)	(3,777,973)
Balance at June 30, 2021	2,037,978	$ 2,038	$ 164,495,840	$ (114,331,276)	$ 50,166,602

	Stockholders' Equity				
	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balance at January 1, 2021	1,280,207	$ 1,280	$ 130,722,286	$ (105,909,384)	$ 24,814,182
Sale of common stock and warrants, net of issuance costs	673,171	673	31,093,629	—	31,094,302
Issuance of common stock upon exercise of warrants	84,600	85	2,201,365	—	2,201,450
Stock-based compensation expense	—	—	478,560	—	478,560
Net loss	—	—	—	(8,421,892)	(8,421,892)
Balance at June 30, 2021	2,037,978	$ 2,038	$ 164,495,840	$ (114,331,276)	$ 50,166,602

See accompanying notes to unaudited interim consolidated financial statements.

Diffusion Pharmaceuticals Inc.
Consolidated Statements of Cash Flows
(unaudited)

	Six Months Ended June 30,	
	2022	**2021**
Operating activities:		
Net loss	$ (8,717,142)	$ (8,421,892)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	—	48,202
Stock-based compensation expense	556,261	478,560
Amortization of premium and discount on marketable securities	(45,439)	—
Changes in operating assets and liabilities:		
Prepaid expenses, deposits and other assets	(118,025)	(291,068)
Accounts payable, accrued expenses and other liabilities	(412,662)	(317,576)
Net cash used in operating activities	(8,737,007)	(8,503,774)
Cash flows provided by investing activities:		
Purchase of marketable securities	(31,615,825)	—
Maturities of marketable securities	9,000,000	—
Net cash used in investing activities	(22,615,825)	—
Cash flows provided by financing activities:		
Proceeds from the sale of preferred stock	5,000	—
Proceeds from the exercise of common stock warrants	—	2,201,450
Proceeds from the sale of common stock	—	31,094,302
Net cash provided by financing activities	5,000	33,295,752
Net (decrease) increase in cash and cash equivalents	(31,347,832)	24,791,978
Cash and cash equivalents at beginning of period	37,313,558	18,515,595
Cash and cash equivalents at end of period	$ 5,965,726	$ 43,307,573
Supplemental disclosure of non-cash activities:		
Unrealized loss on marketable securities	$ 86,583	$ —

See accompanying notes to unaudited interim consolidated financial statements.

1. Organization and Description of Business

Diffusion Pharmaceuticals Inc., a Delaware corporation, is a biopharmaceutical company developing novel therapies to enhance the body's ability to deliver oxygen to areas where it is needed most. The Company's lead product candidate, TSC, is being investigated to enhance the diffusion of oxygen to tissues with low oxygen levels, also known as hypoxia, a serious complication of many of medicine's most intractable and difficult-to-treat conditions, including hypoxic solid tumors.

On April 18, 2022, the Company effected a 1-for-50 reverse split of its common stock. Any references in the unaudited condensed consolidated financial statements and related notes to share or per share amounts give retroactive effect to this reverse stock split.

2. Liquidity

The Company has not generated any revenues from product sales and has funded operations primarily from the proceeds of public and private offerings of equity, convertible debt and convertible preferred stock. Substantial additional financing will be required by the Company to continue to fund its research and development activities. No assurance can be given that any such financing will be available when needed, or at all, or that the Company's research and development efforts will be successful.

The Company regularly explores alternative means of financing its operations and seeks funding through various sources, including public and private securities offerings, collaborative arrangements with third parties and other strategic alliances and business transactions. The Company does not have any commitments to obtain additional funds and may be unable to obtain sufficient funding in the future on acceptable terms, if at all. If the Company cannot obtain the necessary funding, it will need to delay, scale back or eliminate some or all of its research and development programs or enter into collaborations with third parties to commercialize potential products or technologies that it might otherwise seek to develop or commercialize independently; consider other various strategic alternatives, including a merger or sale of the Company; or cease operations. If the Company engages in collaborations, it may receive lower consideration upon commercialization of such products than if it had not entered such arrangements or if it entered into such arrangements at later stages in the product development process.

In July 2022, the Company entered into an at-the-market sales agreement (the "2022 Sales Agreement") with BTIG, LLC, ("BTIG") as agent, pursuant to which the Company may sell up to an aggregate of $20.0 million in shares of the Company's common stock, from time to time through BTIG, by any method permitted that is deemed an "at the market offering" as defined in Rule 415(a)(4) under the Securities Act of 1933, as amended.

Operations of the Company are subject to certain risks and uncertainties including various internal and external factors that will affect whether and when the Company's product candidates become approved drugs and how significant their market share will be, some of which are outside of the Company's control. The length of time and cost of developing and commercializing these product candidates and/or failure of them at any stage of the drug approval process will materially affect the Company's financial condition and future operations. The Company currently expects that its existing cash, cash equivalents and marketable securities as of June 30, 2022 will enable it to fund its operating expenses and capital expenditure requirements into the first quarter of 2024, without giving effect to any business development activities we may undertake.

3. Basis of Presentation and Summary of Significant Accounting Policies

The Summary of Significant Accounting Policies included in the Company's Annual Report for the year ended December 31, 2021 have not materially changed.

Basis of Presentation

The accompanying unaudited interim consolidated financial statements of the Company have been prepared in accordance with GAAP for interim financial information as found in the ASC and ASUs of the FASB, and with the instructions to Form 10-Q and Article 10 of Regulation S-X promulgated by the SEC. In the opinion of management, the accompanying unaudited interim consolidated financial statements of the Company include all normal and recurring adjustments (which consist primarily of accruals, estimates and assumptions that impact the unaudited interim consolidated financial statements) considered necessary to present fairly the Company's financial position as of June 30, 2022, and its results of operations for the three and six months ended June 30, 2022 and 2021 and cash flows for the six months ended June 30, 2022 and 2021. Operating results for the six months ended June 30, 2022 are not necessarily indicative of the results that may be expected for the year ending December 31, 2022. The unaudited interim consolidated financial statements presented herein do not contain the required disclosures under GAAP for annual financial statements. The accompanying unaudited consolidated interim financial statements should be read in conjunction with the annual audited financial statements and related notes as of and for the year ended December 31, 2021 filed with the SEC as part of the Company's Annual Report.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period.

On an ongoing basis, the Company evaluates its estimates using historical experience and other factors, including the current economic environment. Significant items subject to such estimates are assumptions used for purposes of determining stock-based compensation and accounting for research and development activities. Management believes its estimates to be reasonable under the circumstances. Actual results could differ significantly from those estimates.

Fair Value of Financial Instruments

The carrying amounts of the Company's financial instruments, including cash equivalents and accounts payable approximate fair value due to the short-term nature of those instruments.

Concentration of Credit Risk

Financial instruments that potentially expose the Company to concentrations of credit risk consist principally of cash on deposit with multiple financial institutions, the balances of which frequently exceed federally insured limits.

Cash and Cash Equivalents

The Company considers any highly-liquid investments, such as money market funds and commercial paper with an original maturity of three months or less to be cash and cash equivalents.

Marketable Securities

The Company classifies its marketable securities as available-for-sale, which include commercial paper and U.S. government debt securities with original maturities of greater than three months from date of purchase. The Company considers its marketable securities as available for use in current operations, and therefore classify these securities as current assets on the consolidated balance sheet. These securities are carried at fair value, with unrealized gains and losses reported in comprehensive loss and accumulated other comprehensive loss within stockholders' equity. Gains or losses on marketable securities sold will be based on the specific identification method.

Reverse Stock Split

On April 18, 2022, the Company filed a Certificate of Amendment to its Certificate of Incorporation, as amended, with the Secretary of State of the State of Delaware to implement the Reverse Stock Split at a ratio of 1-to-50. No fractional shares were issued in connection with the Reverse Stock Split. Stockholders who otherwise would have been entitled to receive fractional shares of common stock became entitled to receive an amount in cash (without interest or deduction) equal to the fraction of one share to which such stockholder would otherwise be entitled multiplied by $12.93, representing the split-adjusted average closing price of the Company's common stock on the Nasdaq Capital Market for the five consecutive trading days immediately preceding the effective date of the Reverse Stock Split. Proportional adjustments were made to the Company's outstanding warrants, stock options, and other equity securities, as well as to the reserve of shares available for future issuance under the 2015 Equity Plan, to reflect the Reverse Stock Split, in each case, in accordance with the respective terms thereof.

Net Loss Per Common Share

Basic net loss per share is computed by dividing net loss attributable to common stockholders by the weighted average number of shares of common stock outstanding during each period. Diluted net loss per share includes the effect, if any, from the potential exercise or conversion of securities, such as convertible debt, convertible preferred stock, common stock warrants, stock options and unvested restricted stock that would result in the issuance of incremental shares of common stock. In computing the basic and diluted net loss per share applicable to common stockholders, the weighted average number of shares remains the same for both calculations due to the fact that when a net loss exists, dilutive shares are not included in the calculation as the impact is anti-dilutive.

The following potentially dilutive securities outstanding as of June 30, 2022 and 2021 have been excluded from the computation of diluted weighted average shares outstanding, as they would be anti-dilutive:

	As of June 30,	
	2022	**2021**
Common stock warrants	111,891	129,989
Stock options	122,882	61,058
Unvested restricted stock awards	4,672	3,060
	239,445	194,107

Recently Issued Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses, Measurement of Credit Losses on Financial Instruments* (Topic 326). The standard amends the impairment model by requiring entities to use a forward-looking approach based on expected losses to estimate credit losses for most financial assets and certain other instruments that aren't measured at fair value through net income. For available-for-sale debt securities, entities will be required to recognize an allowance for credit losses rather than a reduction in carrying value of the asset. Entities will no longer be permitted to consider the length of time that fair value has been less than amortized cost when evaluating when credit losses should be recognized. This new guidance is effective for the Company as of January 1, 2023. The Company is currently evaluating the impact of this ASU but does not expect that adoption of this standard will have a material impact on the consolidated financial statements and related disclosures.

4. Cash, cash equivalents and marketable securities

The following is a summary of the Company's cash and cash equivalents as of the dates indicated:

	June 30, 2022	December 31, 2021
Cash in banking institutions	$ 1,084,595	$ 30,308,075
Money market funds	3,886,704	7,005,483
Commercial paper	994,427	—
Total	$ 5,965,726	$ 37,313,558

The following is a summary of the Company's marketable securities as of June 30, 2022:

	Amortized cost	Unrealized gains	Unrealized losses	Fair Value
Commercial paper	$ 17,658,057	$ 25	$ (57,001)	$ 17,601,081
U.S. treasury bonds	5,003,207	—	(29,607)	4,973,600
Total	$ 22,661,264	$ 25	$ (86,608)	$ 22,574,681

The Company did not have any marketable securities as of December 31, 2021. The Company's marketable securities generally have contractual maturity dates between 3 and 12 months. Most of the Company's marketable securities are in an unrealized loss position at June 30, 2022. Unrealized losses on marketable securities as of June 30, 2022 were not significant and were primarily due to changes in interest rates, and not due to increased credit risks associated with specific securities. Accordingly, no other-than-temporary impairment was recorded for the six months ended June 30, 2022 and there were no realized gains or losses recorded during the six months ended June 30, 2021.

5. Fair Value of Financial Instruments

Fair value is the price that could be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. Fair value determination in accordance with applicable accounting guidance requires that a number of significant judgments be made. Additionally, fair value is used on a nonrecurring basis to evaluate assets for impairment or as required for disclosure purposes by applicable accounting guidance on disclosures about fair value of financial instruments. Depending on the nature of the assets and liabilities, various valuation techniques and assumptions are used when estimating fair value. The carrying amounts of certain of the Company's financial instruments, including prepaid expense and accounts payable are shown at cost, which approximates fair value due to the short-term nature of these instruments. The Company follows the provisions of FASB ASC Topic 820, *Fair Value Measurement*, for financial assets and liabilities measured on a recurring basis. The guidance requires fair value measurements be classified and disclosed in one of the following three categories:

- Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2: Quoted prices in markets that are not active, or inputs which are observable, either directly or indirectly, for substantially the full term of the asset or liabilities.
- Level 3: Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

The following table presents the Company's assets that are measured at fair value on a recurring basis (amounts in thousands):

	Fair value measurement at reporting date		
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
June 30, 2022:			
Cash equivalents:			
Money market funds	$ 3,886,704	$ —	$ —
Commercial paper	—	994,427	—
Total cash equivalents	$ 3,886,704	$ 994,427	$ —
Marketable securities			
Commercial paper	$ —	$ 17,601,081	$ —
US treasury	—	4,973,600	—
Total marketable securities	$ —	$ 22,574,681	$ —
Total financial assets	$ 3,886,704	$ 23,569,108	$ —

The fair values of the Company's Level 2 marketable securities are estimated primarily based on benchmark yields, reported trades, market-based quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data including market research publications, which represent a market approach. In general, a market approach is utilized if there is readily available and relevant market activity for an individual security. This valuation technique may change from period to period, based on the relevance and availability of market data.

6. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following as of the dates indicated below:

	June 30, 2022	December 31, 2021
Accrued payroll and payroll related expenses	$ 661,061	$ 879,971
Accrued professional fees	163,269	247,704
Accrued clinical studies expenses	766,916	786,579
Other accrued expenses	77,744	65,935
Total	$ 1,668,990	$ 1,980,189

7. Stockholders' Equity and Common Stock Warrants

Private Placement of Series C Preferred Stock

On March 18, 2022, the Company issued and sold to Robert J. Cobuzzi, Jr., Ph.D., its President & Chief Executive Officer, and William R. Elder, its General Counsel & Corporate Secretary, an aggregate of 10,000 shares of Series C Preferred Stock at an offering price of $0.50 per share, representing 100% of the stated value per share of the Series C Preferred Stock, for aggregate gross proceeds of $5,000.

The Series C Certificate provides that, among other things, (i) each share of Series C Preferred Stock is convertible into 0.02 shares of the Company's common stock, representing a conversion price of $25.00 per share, subject to certain conditions, (ii) each share of Series C Preferred Stock outstanding is counted on an as converted basis, together with the Company's common stock as a single class, for purposes of determining the presence of a quorum at any meeting at which holders are asked to vote on matters related to the Reverse Stock Split (subject to any applicable exchange listing rules), (iii) each share of Series C Preferred Stock outstanding has the right to cast 1,600 votes per share of Series C Preferred Stock on the Reverse Stock Split on a "mirrored" basis — this means that the holders of the Series C Preferred Stock are required to vote their shares in a manner that "mirrors" the proportions of "For" and "Against" votes cast by the holders of the Company's common stock are voted on the Amendment (excluding, for the avoidance of doubt, any shares of common stock that are not voted), and (iv) the holders of outstanding shares of Series C Preferred Stock are entitled to dividends, on an as converted basis, equal to dividends actually paid, if any, on shares of common stock and participate in any liquidation of the Company on an as converted basis.

On April 18, 2022, following approval of the Reverse Stock Split by the Company's stockholders, all 10,000 shares of Series C Preferred Stock were converted into an aggregate of 200 shares of the Company's common stock in accordance with the terms of the Series C Certificate.

Common Stock Warrants

During its evaluation of equity classification for the Company's common stock warrants issued in previous periods, the Company considered the conditions as prescribed within ASC 815-40, *Derivatives and Hedging, Contracts in an Entity's own Equity*. The conditions within ASC 815-40 are not subject to a probability assessment. The warrants do not fall under the liability criteria within ASC 480 *Distinguishing Liabilities from Equity* as they are not puttable and do not represent an instrument that has a redeemable underlying security. The warrants do meet the definition of a derivative instrument under ASC 815, but are eligible for the scope exception as they are indexed to the Company's own stock and would be classified in permanent equity if freestanding.

As of June 30, 2022, the Company had the following warrants outstanding to acquire shares of its common stock:

	Outstanding	Range of exercise price per share	Expiration dates
Common stock warrants issued in 2018 related to the January 2018 Offering	23,639	599.711749.7676	January 2023
Common stock warrants issued related to the May 2019 Offering	27,648	250.099306.0404	May and December 2024
Common stock warrants issued related to the November 2019 Offering	4,269	$17.51	November 2024
Common stock warrants issued related to the December 2019 Offering	6,264	21.68834.9292	December 2024 and June 2025
Common stock warrants issued related to the May 2020 Offering	11,424	$65.65	March 2025
Common stock warrants issued related to May 2020 Investor Warrant Exercise	4,998	$29.7	November 2025
Common stock warrants issued related to the February 2021 Offering	33,649	$64.08	February 2026
	111,891		

During the six months ended June 30, 2022, 18,077 warrants expired.

8. Stock-Based Compensation

2015 Equity Plan

The 2015 Equity Plan provides for increases to the number of shares reserved for issuance thereunder each January 1 equal to 4.0% of the total shares of the Company's common stock outstanding as of the immediately preceding December 31, unless a lesser amount is stipulated by the Compensation Committee of the Company's board of directors. Accordingly, 81,531 shares were added to the reserve as of January 1, 2022, which shares may be issued in connection with the grant of stock-based awards, including stock options, restricted stock, restricted stock units, stock appreciation rights and other types of awards as deemed appropriate, in each case, in accordance with the terms of the 2015 Equity Plan. As of June 30, 2022, there were 42,461 shares available for future issuance under the 2015 Equity Plan.

The Company recorded stock-based compensation expense in the following expense categories of its unaudited interim consolidated statements of operations for the periods indicated:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Research and development	$ 58,892	$ 59,567	$ 117,785	$ 92,567
General and administrative	219,238	237,713	438,476	385,993
Total stock-based compensation expense	$ 278,130	$ 297,280	$ 556,261	$ 478,560

The following table summarizes the activity related to all stock option grants for the six months ended June 30, 2022:

	Number of Options	Weighted average exercise price per share	Weighted average remaining contractual life (in years)	Aggregate intrinsic value
Balance at January 1, 2021	72,454	$ 265.85		
Granted	56,300	11.40		
Forfeited	(5,612)	188.18		
Expired	(260)	1,575		
Outstanding at June 30, 2022	122,882	$ 149.96	8.8	$ —
Exercisable at June 30, 2022	60,688	$ 283.73	8.1	$ —
Vested and expected to vest at June 30, 2022	122,882	$ 149.96	8.8	$ —

The weighted average grant date fair value of stock option awards granted during the six months ended June 30, 2022 was $10.35. The total fair value of options vested during the three months ended June 30, 2022 and 2021 was $0.3 million and $0.1 million, respectively. The total fair value of options vested during the six months June 30, 2022 and 2021 was $0.5 million and $0.3 million, respectively. No options were exercised during any of the periods presented. At June 30, 2022, there was $1.1 million of unrecognized compensation expense that will be recognized over a weighted-average period of 1.93 years.

Options granted were valued using the Black-Scholes option-pricing model and the weighted average assumptions used to value the options granted during the six months ended June 30, 2022 and 2021 were as follows:

	2022	2021
Expected term (in years)	5.74	10
Risk-free interest rate	1.9%	1.5%
Expected volatility	135.0%	124.5%
Dividend yield	—%	—%

Restricted Stock Unit Awards

The Company issues restricted stock units ("RSU") to newly elected, non-executive members of the board of directors that vest in six, tri-monthly installments beginning 18 months after the respective grant date. The fair value of a RSU is equal to the fair market value price of the Company's common stock on the date of grant. RSU expense is recorded on a straight-line basis over the service period.

The following table summarizes activity related to RSU awards during the period indicated:

	Number of Units	Weighted average grant date fair value
Balance at January 1, 2022	5,509	$ 34.78
Vested (1)	(837)	29.87
Outstanding at June 30, 2022	4,672	$ 35.66

(1) The RSUs vested during the six months ended June 30, 2022 were settled on a hybrid basis. The Company withheld 308 shares of common stock and, in lieu of delivering such shares, paid the RSU holder an amount in cash equal to the fair market value of such shares on vesting date, representing the holder's approximate tax liability associated with such vesting amount in cash equal to the fair market value of such shares on vesting date, representing the holder's approximate tax liability associated with such vesting.

The Company recognized approximately $16,000 and $5,000 in expense related to these awards during the three months ended June 30, 2022 and 2021, respectively. The Company recognized approximately $32,000 and $10,000 in expense related to these awards during the six months ended June 30, 2022 and 2021, respectively. At June 30, 2022, there was approximately $96,000 of unrecognized compensation cost that will be recognized over a weighted average period of 1.69 years.

9. Commitments and Contingencies

Office Space Lease Commitment

The Company has short term agreements to utilize membership-based co-working space in both Charlottesville, Virginia and Philadelphia, Pennsylvania. Rent expense related to the Company's short-term agreements for the three months ended June 30, 2022 and 2021 was approximately $2,000 and $29,000, respectively. Rent expense related to the Company's short-term agreements was approximately $11,000 and $60,000 for the six months ended June 30, 2022 and 2021, respectively.

Research and Development Arrangements

In the course of normal business operations, the Company enters into agreements with universities and CROs to assist in the performance of research and development activities and contract manufacturers to assist with chemistry, manufacturing, and controls related expenses. Expenditures to CROs represent a significant cost in clinical development for the Company. The Company could also enter into additional collaborative research, contract research, manufacturing, and supplier agreements in the future, which may require upfront payments and long-term commitments of cash.

Defined Contribution Retirement Plan

The Company has established its 401(k) Plan, which covers all employees who qualify under the terms of the plan. Eligible employees may elect to contribute to the 401(k) Plan up to 90% of their compensation, limited by the IRS-imposed maximum. The Company provides a safe harbor match with a maximum amount of 4% of the participant's compensation. The Company made matching contributions under the 401(k) Plan of approximately $26,000 and $24,000 for the three months ended and matched contributions under the 401(k) Plan of approximately $53,000 and $40,000 for the six months ended June 30, 2022 and 2021, respectively.

Legal Proceedings

On August 7, 2014, a complaint was filed in the Superior Court of Los Angeles County, California by Paul Feller, the former Chief Executive Officer of the Company's legal predecessor under the caption Paul Feller v. RestorGenex Corporation, Pro Sports & Entertainment, Inc., ProElite, Inc. and Stratus Media Group, GmbH (Case No. BC553996). The complaint asserts various causes of action, including, among other things, promissory fraud, negligent misrepresentation, breach of contract, breach of employment agreement, breach of the covenant of good faith and fair dealing, violations of the California Labor Code and common counts. The plaintiff is seeking, among other things, compensatory damages in an undetermined amount, punitive damages, accrued interest and an award of attorneys' fees and costs. On December 30, 2014, the Company filed a petition to compel arbitration and a motion to stay the action. On April 1, 2015, the plaintiff filed a petition in opposition to the Company's petition to compel arbitration and a motion to stay the action. After a related hearing on April 14, 2015, the court granted the Company's petition to compel arbitration and a motion to stay the action. On January 8, 2016, the plaintiff filed an arbitration demand with the American Arbitration Association. On November 19, 2018 at an Order to Show Cause Re Dismissal Hearing, the court found sufficient grounds not to dismiss the case and an arbitration hearing was scheduled, originally for November 2020 but later postponed due to the COVID-19 pandemic and related restrictions on gatherings in the State of California. In addition, following the November 2018 hearing, an automatic stay was placed on the arbitration in connection with the plaintiff filing for personal bankruptcy protection. On October 22, 2021, following a determination by the bankruptcy trustee not to pursue the claims and release them back to the plaintiff, the parties entered into a stipulation to abandon arbitration and return the matter to state court. A case management conference was held on February 23, 2022 at which a trial date of May 24, 2023 was set, and the parties have agreed to stipulate to mediation in advance of the trial.

The Company believes the claims in this matter are without merit and intends to defend itself vigorously. However, at this stage, the Company is unable to predict the outcome and possible loss or range of loss, if any, associated with its resolution or any potential effect the matter may have on the Company's financial position. Depending on the outcome or resolution of this matter, it could have a material effect on the Company's financial position, results of operations and cash flows.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion of our financial condition and results of operations together with the unaudited interim consolidated financial statements and the notes thereto included elsewhere in this report and other financial information included in this report. The following discussion may contain predictions, estimates and other forward-looking statements that involve a number of risks and uncertainties, including those discussed under "*Part I — Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations—Special Note Regarding Forward-Looking Statements*" in this report and under "*Part I — Item 1A. Risk Factors*" in our Annual Report. These risks could cause our actual results to differ materially from any future performance suggested below.

Diffusion Pharmaceuticals: Enhancing Oxygen, Fueling Life

We are a biopharmaceutical company developing novel therapies to enhance the body's ability to deliver oxygen to the areas where it is needed most. Our lead product candidate, TSC, is being investigated to enhance the diffusion of oxygen to tissues with low oxygen levels, also known as hypoxia, a serious complication of many of medicine's most intractable and difficult-to-treat conditions, including hypoxic solid tumors.

Business Update

Altitude Trial

During the second quarter, we reported positive effects from our second Oxygenation Trial, the Altitude Trial. This was a double-blind, randomized, placebo-controlled crossover dose exploration study designed to investigate TSC's effects on oxygen enhancement using an experimental model to induce hypoxia in study participants. The primary endpoints measured in this study were maximal oxygen consumption and partial pressure of arterial blood oxygen in normal healthy volunteers subjected to incremental levels of physical exertion while exposed to hypoxic and hypobaric conditions at a simulated altitude of 15,000 feet above sea level. The secondary endpoints were to assess the effect of TSC on SpO2 and lactate.

A total of 30 healthy volunteers were enrolled in the trial with each subject serving as their own control by completing the experiment twice in a random, blinded order in the same day with a 3-hour rest and wash out period between experimental intervals. During one ascent, study subjects received IV placebo administration and the other ascent the same subject received a single IV dose of TSC at one of three dose levels (0.5 mg/kg, 1.5 mg/kg, or 2.5 mg/kg).

In the trial, following exercise under hypoxic conditions, an increase in pH and a decrease in lactate were observed in the study subjects treated with the highest dose of TSC (2.5 mg/kg), both at the end of the exercise period and at 10 minutes post-exercise relative to placebo. These data suggest the 2.5 mg/kg dose of TSC decreased blood acidity (i.e., lactic acid accumulation) and enhanced metabolic recovery at 10 minutes after completion of exercise under the stressful conditions of simulated high altitude and exercise. These positive changes observed in blood markers of oxygen utilization results in the Altitude Trial suggest TSC may enhance oxygen availability at the cellular level and reinforce our belief in the therapeutic potential of TSC.

Phase 2 Trial in Patients with GBM Incorporating Innovative Imaging Methodology (Study 200-208)

Taken together, the combination of positive effects observed in each of the TCOM, Altitude, and COVID-19 Trials affirmed our belief in TSC's potential as an adjuvant treatment to standard of care therapy for hypoxic solid tumors. As such, on July 26, 2022, we announced that we had aligned with the FDA on the design of an open-label, dose-escalation, Phase 2 safety and efficacy study of TSC administered with standard of care to newly diagnosed GBM patients. This trial has been designated Study "200-208," and we currently expect to initiate the trial by the end of 2022 and to dose the first patient in the study in the first quarter of 2023, subject to the outcome of our ongoing business development processes described below.

GBM is an aggressive, deadly, and treatment-resistant type of malignant brain tumor, affecting approximately 13,000 newly diagnosed patients each year in the United States. Few treatment options are available for patients with GBM, and none have extended life expectancy beyond a few months. In fact, according to the National Brain Tumor Society, the five-year survival rate for GBM is only 6.8 percent with an average survival time of eight months.

Study 200-208 will include a dose-escalation phase, enrolling patients in a 3+3+3 design, to evaluate the safety, tolerability, pharmacokinetics, and pharmacodynamics of TSC at doses of 1.5 mg/kg, 2.0 mg/kg and 2.5 mg/kg administered in combination with concomitant standard of care radiotherapy plus temozolomide. An additional 17 subjects will be treated at the highest tolerable dose identified in the dose escalation phase. The primary objective of the study is to evaluate the safety and tolerability of TSC for the treatment of patients with newly diagnosed GBM when administered with standard of care. Secondary objectives of the study are to evaluate progression-free survival at six months by magnetic resonance imaging, assessment using Response Assessment in Neuro-Oncology criteria, and to evaluate overall survival at 12 months.

Study 200-208 will vary in a variety of ways from the GBM trials we have conducted in the past, including three particularly notable differentiators:

- The 1.5 mg/kg to 2.5 mg/kg doses of TSC to be administered in the trial will be 6-10-fold higher than the 0.25 mg/kg dose used in conjunction with radiotherapy in our prior GBM trials;

- TSC will be administered five days each week approximately 30-60 minutes prior to radiotherapy, as compared to the three days per week regimen in our prior GBM trials; and

- The trial will incorporate an innovative use of PET scans to directly evaluate the oxygen enhancing effects of TSC on tumor hypoxia using radiotracers, with initial data readouts expected to be available within one year of the study's initiation.

Business Development

Our current strategy for TSC is focused on advancing it through development with the ultimate objective of obtaining market authorizations and entering commercialization, whether alone, with a partner, or through a partner, to provide treatment options to patients suffering from life-threatening medical conditions like GBM. We believe that our recent clinical development efforts, including the completion of our TCOM and Altitude Trials and our design of Study 200-208, are positive steps for our Company and our stockholders and create the potential to drive meaningful value if we are successful in advancing TSC to the subsequent development milestones we have identified. However, drug development is an extremely expensive, risky, and time-consuming endeavor, particularly so for drugs being developed to treat oncological indications. Accordingly, while we continue our internal efforts to advance the development of TSC, including Study 200-208, we are also taking active steps to identify potential partnership and other opportunities to obtain additional resources for our programs, including opportunities that are non-dilutive to our stockholders.

We also believe we can leverage what we have learned from the development of TSC and the significant skills and experience of our team to opportunistically identify and acquire or in-license novel product candidates that complement our overall strategy and/or are synergistic with our team's core competencies and strengths. We have taken, and intend to continue to take, active steps to identify assets and/or companies for acquisition and/or partnership, as well as a range of other transactions, across a variety of therapeutic indications, that we believe may complement, supplement and/or de-risk our current development programs, as well as provide additional value for our stockholders.

At-The-Market Sales Agreement

In July 2022, we entered into the 2022 Sales Agreement with BTIG, pursuant to which we may sell, from time to time, shares of our common stock having an offering price of up to $20 million in sales deemed to be "at-the-market" equity offerings as defined in Rule 415 of the Securities Act, subject to the offering limits in General Instruction I.B.6 of Form S-3.

As of the date of this Quarterly Report, we have not sold any shares of common stock pursuant to the Sales Agreement.

ILD-DLCO Trial Update

From our initial announcement of the Oxygenation Trials in early 2021, we have stated our belief that positive data from any one or more of the three Oxygenation Trials would provide evidence of a definitive effect of TSC on oxygenation, as well as guide the subsequent steps of our development strategy focused on demonstrating the clinical and therapeutic benefits of TSC in a relevant patient population affected by hypoxia. As noted above, the positive effects observed in and data obtained from both the TCOM and Altitude Trials have been used to design and align with the FDA on a novel GBM trial design for Study 200-208 and to develop our Hypoxic Solid Tumor Program, more generally. On August 9, 2022, in order to, among other things, dedicate more of our human and other resources to Study 200-208 and our business development activities, as well as ongoing challenges enrolling patients in clinical trials for respiratory indications during the ongoing COVID-19 pandemic, we made the decision to terminate recruitment and enrollment in the ILD-DLCO Trial and begin winding the trial down.

Financial Summary

As of June 30, 2022, we had cash, cash equivalents, and marketable securities of $28.5 million, in the aggregate. We have incurred operating losses since inception, have not generated any product revenue and have not achieved profitable operations. We incurred net losses of $4.2 million and $8.7 million for the three and six months ended June 30, 2022, respectively. Our accumulated deficit as of June 30, 2022 was $138.7 million, and we expect to continue to incur substantial losses in future periods. We anticipate that our operating expenses will increase substantially as we continue to advance the development of TSC and any other assets we may in-license or acquire, including any costs related to:

- our ongoing and planned clinical trials, including Study 200-208;
- our in-license or acquisition of any additional product candidates, including any related transaction costs;
- any additional studies we may undertake, including other preclinical and clinical studies to support the filing of any new drug application with the FDA;
- other research, development, and manufacturing activities designed to develop and optimize formulation, manufacturing processes, dosage, dose forms, and other characteristics prior to regulatory approval;
- the maintenance, expansion, and protection our global intellectual property portfolio;
- the hiring of additional clinical, manufacturing, scientific, sales, or other personnel; and investments in operational, financial, and management information systems.

We currently intend to use our existing cash, cash equivalents and marketable securities for working capital and to fund the research and development of TSC and any business development activities we may undertake. We currently expect that our cash, cash equivalents and marketable securities as of June 30, 2022 will enable us to fund our operating expenses and capital expenditure requirements into the first quarter of 2024, without giving effect to any business development activities we may undertake.

Financial Operations Overview

Revenues

We have not yet generated any revenue from product sales. We do not expect to generate revenue from product sales for the foreseeable future.

Research and Development Expense

R&D expenses include, but are not limited to, third-party CRO arrangements and employee-related expenses, including salaries, benefits, stock-based compensation, and travel expense reimbursement. R&D activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical studies. As we advance our product candidates, we expect the amount of R&D costs will continue to increase for the foreseeable future. R&D costs are charged to expense as incurred.

General and Administrative Expense

G&A expenses consist principally of salaries and related costs for executive and other personnel, including stock-based compensation, other employee benefit costs, expenses associated with investment bank and other financial advisory services, and travel expenses. Other G&A expenses include, facility-related costs, communication expenses and professional fees for legal, patent prosecution and maintenance, consulting, accounting, and other professional services.

Interest Income

Interest income is interest earned from our cash, cash equivalents and marketable securities.

Results of Operations for Three Months Ended June 30, 2022 Compared to Three Months Ended June 30, 2021

The following table sets forth our results of operations for the three months ended June 30, 2022 and 2021.

	Three Months Ended June 30, 2022		
	2022	**2021**	**Change**
Operating expenses:			
Research and development	$ 2,108,553	$ 1,972,673	$ 135,880
General and administrative	2,137,326	1,836,773	300,553
Depreciation	—	23,755	(23,755)
Loss from operations	4,245,879	3,833,201	412,678
Interest income	(55,378)	(55,228)	(150)
Net loss	$ (4,190,501)	$ (3,777,973)	$ (412,528)

We recognized $2.1 million in R&D expenses during the three months ended June 30, 2022 compared to $2.0 million during the three months ended June 30, 2021. This increase was attributable to the timing of clinical trials and drug manufacturing, offset by an increase in salaries and wages and stock-based compensation related to increased headcount.

G&A expenses were $2.1 million during the three months ended June 30, 2022 compared to $1.8 million during the three months ended June 30, 2021. The increase was mainly due to an increase in professional fees related to the April reverse stock-split as well as increased salary expense related to additional headcount.

The decrease in depreciation for the three months ended June 30, 2022 compared to the three months ended June 30, 2021 is related to the disposal of property and equipment during the year-ended December 31, 2021.

Results of Operations for Six Months Ended June 30, 2022 Compared to Six Months Ended June 30, 2021

The following table sets forth our results of operations for the six months ended June 30, 2022 and 2021.

	Six Months Ended June 30,		
	2022	2021	Change
Operating expenses:			
Research and development	$ 4,534,451	$ 4,889,051	$ (354,600)
General and administrative	4,265,878	3,580,283	685,595
Depreciation	—	48,202	(48,202)
Loss from operations	8,800,329	8,517,536	282,793
Interest income	(83,187)	(95,644)	12,457
Net loss	$ (8,717,142)	$ (8,421,892)	$ (295,250)

We recognized $4.5 million in R&D expenses during the six months ended June 30, 2022 compared to $4.9 million during the six months ended June 30, 2021. This decrease was attributable to the timing of clinical trials and drug manufacturing, offset by an increase in salaries and wages and stock-based compensation related to increased headcount.

G&A expenses were $4.3 million during the six months ended June 30, 2022 compared to $3.6 million during the six months ended June 30, 2021. The increase in G&A expense was primarily due to an increase in professional fees related to the April reverse stock-split as well as increased salary expense related to additional headcount.

The decrease in depreciation for the six months ended June 30, 2022 compared to the six months ended June 30, 2021 is related to the disposal of property and equipment during the year-ended December 31, 2021.

The decrease in interest income for the six months ended June 30, 2022 compared to the six months ended June 30, 2021 is primarily attributable to lower interest earned on cash and investments.

Liquidity and Capital Resources

Working Capital

To date, we have funded our operations primarily through the sale and issuance of preferred stock, common stock and convertible promissory notes. As of June 30, 2022, we had $6.0 million in cash and cash equivalents, working capital of $26.7 million and an accumulated deficit of $138.7 million. We expect to continue to incur net losses for the foreseeable future. We intend to use our existing cash and cash equivalents to fund our working capital and research and development of our product candidates.

Cash Flows

The following table sets forth our cash flows for the six months ended June 30, 2022 and 2021:

	Six Months Ended June 30,	
Net cash (used in) provided by:	**2022**	**2021**
Operating activities	$ (8,737,007)	$ (8,503,774)
Investing activities	(22,615,825)	—
Financing activities	5,000	33,295,752
Net (decrease) increase in cash and cash equivalents	$ (31,347,832)	$ 24,791,978

As of December 31, 2021, we did not own any marketable securities. The decrease in cash and cash equivalents during the six months ended June 30, 2022 is primarily attributable to purchases of marketable securities during the period intended to preserve capital, fulfill the Company's liquidity needs, and maximize investment performance in accordance with the Company's investment policies and guidelines.

Operating Activities

Net cash used in operating activities of $8.7 million during the six months ended June 30, 2022 was primarily attributable to our net loss of $8.7 million and our net change in operating assets and liabilities of $0.5 million. This amount was offset by $0.6 million in stock-based compensation expense. The net change in our operating assets and liabilities is primarily attributable to a decrease in our accrued expenses and other current liabilities due to the timing of our payments to our vendors and employees as well as an increase in our prepaid expenses, deposits and other current assets.

Net cash used in operating activities of $8.5 million during the six months ended June 30, 2021 was primarily attributable to our net loss of $8.4 million and our net change in operating assets and liabilities of $0.6 million. This amount was offset by $0.5 million in stock-based compensation expense and depreciation expense. The net change in our operating assets and liabilities is primarily attributable to a decrease in our accrued expenses and other current liabilities due to the timing of our payments to our vendors and employees as well as an increase in our prepaid expenses, deposits and other current assets.

Investing Activities

Net cash used in investing activities during the six months ended June 30, 2022 was attributable to the purchase of $31.6 million of marketable securities and maturities of $9.0 million of marketable securities.

Financing Activities

Net cash provided by financing activities was $5,000 during the six months ended June 30, 2022, which was attributable to net proceeds received from the sale of our Series C Preferred Stock.

Net cash provided by financing activities was $33.3 million during the six months ended June 30, 2021, which was attributable to net proceeds of $31.1 million received from the sale of our common stock and $2.2 million in proceeds received from the exercise of common stock warrants.

Capital Requirements

We currently expect to continue to incur substantial expenses and generate significant operating losses as we continue to pursue our business strategy of developing TSC. Our operations have consumed substantial amounts of cash since inception and we currently expect to continue to spend substantial amounts of cash to advance the clinical development of TSC and any other product candidates we may in-license or acquire in the future. As of the date of this Quarterly Report, most of our cash resources for clinical development are dedicated to our ongoing and planned clinical trials. While we currently believe we have adequate cash resources to continue operations into the first quarter of 2024 (without giving effect to any business development activities we may undertake), we anticipate that we will need additional funding in order to complete development of TSC and any other assets we may in-license or acquire which, if available, could be obtained through additional capital raising transactions, entry into strategic partnerships or collaborations, or alternative financing arrangements.

As of June 30, 2022, we did not have any credit facilities in place under which we could borrow funds or any other sources of committed capital. In July 2022, we entered into an at-the-market sales agreement, or the 2022 Sales Agreement with BTIG, as agent, pursuant to which the Company may sell up to an aggregate of $20.0 million in shares of the Company's common stock, from time to time through BTIG, by any method permitted that is deemed an "at the market offering" as defined in Rule 415(a)(4) under the Securities Act of 1933, as amended. As of the date of this filing, we have not sold any shares under the 2022 Sales Agreement.

In the future, we may seek to raise additional funds through various sources. However, we can give no assurances that we will be able to secure additional sources of funds to support our operations, or if such funds are available to us, that such additional financing will be sufficient or be on terms acceptable to us. This risk may increase if economic and market conditions deteriorate. If we are unable to obtain additional financing when needed, we may need to terminate, significantly modify, or delay the development of TSC or our product candidates, or we may need to obtain funds through collaborations or otherwise on terms that may require us to relinquish rights to our technologies or product candidates that we might otherwise seek to develop or commercialize independently. If we are unable to raise adequate additional capital as and when required in the future, we could be forced to cease development activities and terminate our operations, and you could experience a complete loss of your investment.

To the extent that we raise additional capital in the future through the sale of our common stock or securities convertible or exchangeable for common stock such as common stock warrants, convertible preferred stock, or convertible debt instruments, the interests of our current stockholders may be diluted or otherwise impacted. In particular, specific rights granted to future holders of preferred stock or convertible debt securities may include voting rights, preferences as to dividends and liquidation, conversion and redemption rights, sinking fund provisions, and restrictions on our ability to merge with or sell our assets to a third party. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements, as defined by the rules and regulations of the SEC, that have or are reasonably likely to have a material effect on our financial condition, changes in financial condition, revenue or expenses, results of operations, liquidity, capital expenditures, or capital resources. As a result, we are not materially exposed to any financing, liquidity, market, or credit risk that could arise if we had engaged in these arrangements.

Critical Accounting Policies

As of the date of this Quarterly Report, the Critical Accounting Policies included in our Annual Report have not changed.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As a "smaller reporting company" as defined by Item 10 of Regulation S-K, promulgated by the SEC under the U.S. Securities Act of 1933, as amended, we are not required to provide the information required by this Item 3.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) that are designed to provide reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, we recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and we are required to apply our judgment in evaluating the cost-benefit relationship of possible internal controls. Our management evaluated, with the participation of our principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered in this report. Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of the end of such period to provide reasonable assurance that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding disclosure.

Change in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as such term is defined in Exchange Act Rule 13a-15(f) that occurred during the quarter ended June 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

Please refer to *Note 9, Commitments and Contingencies* in the notes accompanying the unaudited interim consolidated financial statements included in Part I, Item 1 of this Quarterly Report, which is incorporated herein by reference.

ITEM 1A. RISK FACTORS

As of the date of this Quarterly Report, there have been no material changes to our risk factors previously disclosed in our Annual Report and our subsequent quarterly report on Form 10-Q.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Unregistered Sales of Equity Securities

None.

Issuer Purchases of Equity Securities

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

See attached Exhibit Index.

DIFFUSION PHARMACEUTICALS INC.
QUARTERLY REPORT ON FORM 10-Q
EXHIBIT INDEX

Exhibit No.	Description	Method of Filing
10.1	Employment Agreement, effective May 18, 2022, by and between the Company and Raven Jaeger, M.S.	Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed June 28, 2022
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 and SEC Rule 13a-14(a)	Filed herewith
31.2	Certification of principal financial officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 and SEC Rule 13a-14(a)	Filed herewith
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Furnished herewith
32.2	Certification of principal financial officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Furnished herewith
101	The following materials from Diffusion's quarterly report on Form 10-Q for the quarter ended June 30, 2022 formatted in inline XBRL (Extensible Business Reporting Language): (i) the Unaudited Consolidated Balance Sheets, (ii) the Unaudited Consolidated Statements of Operations, (iii) the Unaudited Consolidated Statement of Changes in Stockholders' Equity (Deficit), (iv) the Unaudited Consolidated Statements of Cash Flows, and (v) Notes to Unaudited Consolidated Financial Statements	Filed herewith
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)	

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: August 11, 2022

DIFFUSION PHARMACEUTICALS INC.

By: /s/ Robert J. Cobuzzi, Jr.
Robert J. Cobuzzi, Jr.
President and Chief Executive Officer
(Principal Executive Officer)

By: /s/ William Hornung
William Hornung
Chief Financial Officer
(Principal Financial Officer and
Principal Accounting Officer)

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO SECTION 302 OF THE SARBANES OXLEY ACT OF 2002 AND SEC RULE 13a-14(a)

I, Robert J. Cobuzzi, Jr., Ph.D., certify that:

1. I have reviewed this quarterly report on Form 10-Q of Diffusion Pharmaceuticals Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 11, 2022

/s/ Robert J. Cobuzzi, Jr., Ph.D.
Robert J. Cobuzzi, Jr., Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES OXLEY ACT OF 2002 AND SEC RULE 13a-14(a)

I, William K. Hornung, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Diffusion Pharmaceuticals Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 11, 2022

/s/ William K. Hornung
William K. Hornung
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Diffusion Pharmaceuticals Inc. (the "Company") for the quarter ended June 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Robert J. Cobuzzi, Jr., Ph.D, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Robert J. Cobuzzi, Jr., Ph.D
Robert J. Cobuzzi, Jr., Ph.D
President and Chief Executive Officer
August 11, 2022

Exhibit 32.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Diffusion Pharmaceuticals Inc. (the "Company") for the quarter ended June 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, William K. Hornung, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ William K. Hornung
William K. Hornung
Chief Financial Officer (Principal Financial and Accounting Officer)
August 11, 2022