# 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, 2021**

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

**Commission File Number: 001-39049**

# EXAGEN INC.

**(Exact name of registrant as specified in its charter)**

| **Delaware** | **20-0434866** |
|---|---|
| **(State or other jurisdiction of incorporation or organization)** | **(I.R.S. Employer Identification No.)** |
| **1261 Liberty Way Vista, California** | **92081** |
| **(Address of Principal Executive Offices)** | **(Zip Code)** |

**(760) 560-1501**
**(Registrant's Telephone Number, Including Area Code)**

Securities registered pursuant to Section 12(b) of the Act:

| **Title of each class** | **Trading Symbol(s)** | **Name of each exchange on which registered** |
|---|---|---|
| **Common Stock, par value $0.001 per share** | **XGN** | **The Nasdaq Global Market** |

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 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a 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 Securities Exchange Act of 1934.

| | | | |
|---|---|---|---|
| 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 Securities Act ☐

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

Total shares of common stock outstanding as of the close of business on August 6, 2021 was 16,126,784.

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## Exagen Inc.

### Condensed Balance Sheets
### (in thousands, except share and per share data)

| | June 30, 2021 | December 31, 2020 |
|---|---|---|
| | (Unaudited) | |
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 112,576 | $ 57,448 |
| Accounts receivable, net | 8,780 | 8,910 |
| Prepaid expenses and other current assets | 3,172 | 4,159 |
| Total current assets | 124,528 | 70,517 |
| Property and equipment, net | 3,054 | 2,102 |
| Goodwill | 5,506 | 5,506 |
| Other assets | 235 | 250 |
| Total assets | $ 133,323 | $ 78,375 |
| **Liabilities and Stockholders' Equity** | | |
| Current liabilities: | | |
| Accounts payable | $ 2,450 | $ 3,014 |
| Accrued and other current liabilities | 5,815 | 5,757 |
| Total current liabilities | 8,265 | 8,771 |
| Borrowings-non-current portion, net of discounts and debt issuance costs | 27,073 | 26,659 |
| Deferred tax liabilities | 158 | 158 |
| Other non-current liabilities | 1,447 | 948 |
| Total liabilities | 36,943 | 36,536 |
| Commitments and contingencies (Note 5) | | |
| Stockholders' equity: | | |
| Preferred stock, $0.001 par value; 10,000,000 shares authorized, no shares issued or outstanding at June 30, 2021 and December 31, 2020 | — | — |
| Common stock, $0.001 par value; 200,000,000 shares authorized at June 30, 2021 and December 31, 2020; 16,126,784 and 12,652,308 shares issued and outstanding at June 30, 2021 and December 31, 2020, respectively | 16 | 13 |
| Additional paid-in capital | 290,272 | 223,115 |
| Accumulated deficit | (193,908) | (181,289) |
| Total stockholders' equity | 96,380 | 41,839 |
| Total liabilities and stockholders' equity | $ 133,323 | $ 78,375 |

*The accompanying notes are an integral part of these financial statements*

**Exagen Inc.**

**Unaudited Condensed Statements of Operations**
**(in thousands, except share and per share data)**

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| Revenue | $ 12,772 | $ 8,948 | $ 23,359 | $ 18,532 |
| Operating expenses: | | | | |
| Costs of revenue | 5,451 | 3,338 | 10,162 | 7,883 |
| Selling, general and administrative expenses | 11,171 | 8,276 | 21,211 | 17,902 |
| Research and development expenses | 1,892 | 751 | 3,295 | 1,385 |
| Total operating expenses | 18,514 | 12,365 | 34,668 | 27,170 |
| Loss from operations | (5,742) | (3,417) | (11,309) | (8,638) |
| Interest expense | (663) | (635) | (1,308) | (1,266) |
| Other (expense) income, net | (5) | 689 | (2) | 860 |
| Loss before income taxes | (6,410) | (3,363) | (12,619) | (9,044) |
| Income tax benefit | — | — | — | 118 |
| Net loss | $ (6,410) | $ (3,363) | (12,619) | (8,926) |
| Net loss per share, basic and diluted (Note 2) | $ (0.38) | $ (0.27) | $ (0.84) | $ (0.71) |
| Weighted-average number of shares used to compute net loss per share, basic and diluted (Note 2) | 16,928,613 | 12,637,642 | 14,946,935 | 12,616,678 |

*The accompanying notes are an integral part of these financial statements*

**Exagen Inc.**

**Unaudited Condensed Statements of Stockholders' Equity**
**(in thousands, except share data)**

| | Common Stock | | Additional Paid-In Capital | Accumulated Deficit | Total Stockholders' Equity |
|---|---|---|---|---|---|
| | Shares | Amount | | | |
| **Balances at December 31, 2020** | 12,652,308 | $ 13 | $ 223,115 | $ (181,289) | $ 41,839 |
| Issuance of stock in public offering, net of issuance costs of $4,435 | 4,255,000 | 4 | 64,705 | — | 64,709 |
| Exercise of stock options | 3,381 | — | 44 | — | 44 |
| Issuance of stock under Employee Stock Purchase Plan | 14,991 | — | 175 | — | 175 |
| Stock-based compensation | — | — | 912 | — | 912 |
| Net loss | — | — | — | (6,209) | (6,209) |
| **Balances at March 31, 2021** | 16,925,680 | 17 | 288,951 | (187,498) | 101,470 |
| Retirement of common stock in exchange for common stock warrant | (804,951) | (1) | (12,774) | — | (12,775) |
| Issuance of common stock warrant in exchange for retirement of common stock | — | — | 12,775 | — | 12,775 |
| Exercise of stock options | 6,055 | — | 35 | — | 35 |
| Stock-based compensation | — | — | 1,285 | — | 1,285 |
| Net loss | — | — | — | (6,410) | (6,410) |
| **Balances at June 30, 2021** | 16,126,784 | $ 16 | $ 290,272 | $ (193,908) | $ 96,380 |

| | Common Stock | | Additional Paid-In Capital | Accumulated Deficit | Total Stockholders' Equity |
|---|---|---|---|---|---|
| | Shares | Amount | | | |
| **Balances at December 31, 2019** | 12,560,990 | $ 13 | $ 220,248 | $ (164,602) | $ 55,659 |
| Exercise of stock options | 43,700 | — | 10 | — | 10 |
| Stock-based compensation | — | — | 431 | — | 431 |
| Net exercise of common stock warrants | 22,366 | — | — | — | — |
| Net loss | — | — | — | (5,563) | (5,563) |
| **Balances at March 31, 2020** | 12,627,056 | 13 | 220,689 | (170,165) | 50,537 |
| Exercise of stock options | 3,599 | — | 2 | — | 2 |
| Stock-based compensation | — | — | 647 | — | 647 |
| Exercise of common stock warrants | 9,754 | — | 18 | — | 18 |
| Net loss | — | — | — | (3,363) | (3,363) |
| **Balances at June 30, 2020** | 12,640,409 | $ 13 | $ 221,356 | $ (173,528) | $ 47,841 |

*The accompanying notes are an integral part of these financial statements*

**Exagen Inc.**

**Unaudited Statements of Cash Flows**
**(in thousands)**

| | Six Months Ended June 30, | |
|---|---|---|
| | 2021 | 2020 |
| **Cash flows from operating activities:** | | |
| Net loss | $ (12,619) | $ (8,926) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Depreciation and amortization | 407 | 253 |
| Amortization of debt discount and debt issuance costs | 148 | 132 |
| Non-cash interest expense | 266 | 263 |
| Deferred income taxes | — | (117) |
| Stock-based compensation | 2,197 | 1,078 |
| Changes in assets and liabilities: | | |
| Accounts receivable, net | 130 | (1,548) |
| Prepaid expenses and other current assets | 987 | 951 |
| Other assets | (13) | (1) |
| Accounts payable | (102) | (42) |
| Accrued and other current liabilities | (163) | (100) |
| Net cash used in operating activities | (8,762) | (8,057) |
| **Cash flows from investing activities:** | | |
| Purchases of property and equipment | (881) | (237) |
| Net cash used in investing activities | (881) | (237) |
| **Cash flows from financing activities:** | | |
| Proceeds from exercise of stock options | 79 | 12 |
| Proceeds from common stock issued under Employee Stock Purchase Plan | 175 | — |
| Proceeds from exercise of common stock warrants | — | 18 |
| Principal payment on capital lease obligations | (220) | (120) |
| Proceeds from Paycheck Protection Program loan | — | 2,865 |
| Repayment of Paycheck Protection Program loan | — | (2,865) |
| Proceeds from the issuance of common stock in public offering, gross | 69,144 | — |
| Payment of issuance costs related to public offering | (4,407) | — |
| Net cash provided by (used in) financing activities | 64,771 | (90) |
| Net change in cash, cash equivalents and restricted cash | 55,128 | (8,384) |
| Cash, cash equivalents and restricted cash, beginning of period | 57,548 | 72,184 |
| Cash, cash equivalents and restricted cash, end of period | $ 112,676 | $ 63,800 |
| **Supplemental disclosure of cash flow information:** | | |
| Cash paid for interest expense | $ 892 | $ 875 |
| **Supplemental disclosure of non-cash items:** | | |
| Equipment purchased under capital lease obligations | $ 940 | $ 2 |
| Costs incurred, but not paid, in connection with capital expenditures | $ 91 | $ 4 |
| Deferred offering costs reclassified to equity | $ 28 | $ — |

*The accompanying notes are an integral part of these financial statements*

## Note 1. Organization

### *Description of Business*

Exagen Inc. (the Company) is dedicated to transforming the care continuum for patients suffering from debilitating and chronic autoimmune diseases by enabling timely differential diagnosis and optimizing therapeutic intervention.

### *Liquidity*

The Company has incurred recurring losses and negative cash flows from operating activities since inception. The Company anticipates that it will continue to incur net losses into the foreseeable future. At June 30, 2021, the Company had cash and cash equivalents of $112.6 million and had an accumulated deficit of $193.9 million. Since inception, the Company has financed its operations primarily through a combination of equity financings of common stock and private placements of preferred securities, debt financing arrangements, and revenue from sales of the Company's products. Based on the Company's current business plan, management believes that its existing capital resources will be sufficient to fund the Company's obligations for at least twelve months following the issuance of these condensed financial statements.

To execute its business plans, the Company may need additional funding to support its continuing operations and pursue its growth strategy. Until such time as the Company can achieve significant cash flows from operations, if ever, it expects to finance its operations through the sale of its stock, debt financings or other strategic transactions. Although the Company has been successful in raising capital in the past, there is no assurance that it will be successful in obtaining such additional financing on terms acceptable to the Company, if at all. The terms of any financing may adversely affect the holdings or the rights of the Company's stockholders. If the Company is unable to obtain funding, the Company could be forced to delay, reduce or eliminate some or all of its programs, product portfolio expansion plans or commercialization efforts, which could have a material adverse effect on the Company's business, operating results and financial condition and the Company's ability to achieve its intended business objectives.

## Note 2. Summary of Significant Accounting Policies

### *Basis of Presentation and Use of Estimates*

The accompanying interim condensed balance sheet as of June 30, 2021, the condensed statements of operations and the condensed statements of stockholders' equity for the three and six months ended June 30, 2021 and 2020 and cash flows for the six months ended June 30, 2021 and 2020 and the related footnote disclosure are unaudited and have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission (SEC), and with accounting principles generally accepted in the United States (GAAP) applicable to interim financial statements. In management's opinion, the unaudited interim condensed financial statements have been prepared on the same basis as the audited financial statements and include all normal adjustments, necessary for the fair presentation of the Company's financial position as of June 30, 2021 and its results of operations for the three and six month periods presented. The results for the six months ended June 30, 2021 are not necessarily indicative of the results expected for the full fiscal year or any other interim period. The year-end condensed balance sheet data was derived from audited financial statements, but does not include all disclosures required by GAAP. These unaudited condensed financial statements should be read in conjunction with the Company’s audited financial statements for the year ended December 31, 2020, included in its Annual Report on Form 10-K filed with the SEC on March 16, 2021.

The preparation of the accompanying condensed financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities as of the date of the condensed financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could materially differ from those estimates.

Significant estimates and assumptions made in the accompanying condensed financial statements include, but are not limited to revenue recognition, the fair value of financial instruments measured at fair value, the recoverability of its long-lived assets (including goodwill) and net deferred tax assets (and related valuation allowance). The Company evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors and adjusts those estimates and assumptions when facts and circumstances dictate. Actual results could materially differ from those estimates.

***Concentration of Credit Risk and Other Risk and Uncertainties***

Financial instruments that potentially subject the Company to credit risk consist principally of cash, cash equivalents, and accounts receivable. Substantially all the Company's cash and cash equivalents are held at one financial institution that management believes is of high credit quality. Such deposits may, at times, exceed federally insured limits.

Significant payors and customers are those which represent more than 10% of the Company's total revenue or accounts receivable balance at each respective balance sheet date. For each significant payor and customer, revenue as a percentage of total revenue and accounts receivable as a percentage of total accounts receivable are as follows:

| | Revenue | | | |
|---|---|---|---|---|
| | Three Months Ended June 30, | | Six Months Ended June 30, | |
| | 2021 | 2020 | 2021 | 2020 |
| Medicare | 19 % | 18 % | 19 % | 22 % |
| Medicare Advantage | 13 % | * | 12 % | 11 % |
| Blue Shield | 11 % | 11 % | 11 % | 12 % |
| Janssen (SIMPONI®) | * | 23 % | * | 11 % |

* Less than 10%.

| | Accounts Receivable | |
|---|---|---|
| | June 30, 2021 | December 31, 2020 |
| Blue Shield | 16 % | 11 % |
| United Healthcare | 13 % | * |
| Janssen (SIMPONI®) | * | 35 % |

* Less than 10%.

For the three months ended June 30, 2021 and 2020, approximately 81% and 60%, respectively, of the Company's revenue was related to the AVISE® CTD test. For the six months ended June 30, 2021 and 2020, approximately 81% and 72%, respectively, of the Company's revenue was related to the AVISE® CTD test.

The Company is dependent on key suppliers for certain laboratory materials. For each of the three and six months ended June 30, 2021 and 2020, approximately 97% of the Company's diagnostic testing supplies were purchased from two suppliers. An interruption in the supply of these materials would impact the Company's ability to perform testing services.

***Disaggregation of Revenue***

The following table includes the Company's revenues as disaggregated by payor and customer category (in thousands):

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| Revenue: | | | | |
| Healthcare insurers | $ 7,381 | $ 4,138 | $ 13,408 | $ 10,200 |
| Government | 2,394 | 1,807 | 4,403 | 4,052 |
| Client(1) | 2,427 | 746 | 4,392 | 1,828 |
| Other(2) | 270 | 206 | 556 | 401 |
| Janssen (SIMPONI®) | 300 | 2,051 | 600 | 2,051 |
| Total revenue | $ 12,772 | $ 8,948 | $ 23,359 | $ 18,532 |

(1) Includes hospitals, other laboratories, etc.
(2) Includes patient self-pay that is immaterial.

***Fair Value Measurements***

The carrying value of the Company's cash and cash equivalents approximate fair value due to the short-term nature of these items. Based on the borrowing rates currently available to the Company for debt with similar terms and consideration of default and credit risk, the carrying value of the Company's long-term borrowings approximates its fair value, which is considered a Level 2 input.

Fair value is defined as the exchange price that would be received for an asset or an exit price paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs.

The fair value hierarchy defines a three-level valuation hierarchy for disclosure of fair value measurements as follows:

Level 1 - Unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2 - Inputs other than quoted prices included within Level I that are observable, unadjusted quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Level 3 - Unobservable inputs that are supported by little or no market activity for the related assets or liabilities.

The categorization of a financial instrument within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

***Cash, Cash Equivalents and Restricted Cash***

The Company considers all highly-liquid investments purchased with a remaining maturity date upon acquisition of three months or less to be cash equivalents and are stated at cost, which approximates fair value.

In 2016, the Company entered into an arrangement with a financial institution with which it has an existing banking relationship whereby in exchange for the issuance of corporate credit cards, the Company agreed to obtain a $0.1 million certificate of deposit with this financial institution as collateral for the balances borrowed on these credit cards. The Company has classified the value of this certificate of deposit (including all interest earned thereon) within other assets in the accompanying balance sheets. The Company has the right to terminate the credit card program at any time. Upon termination of the credit card program and repayment of all outstanding balances owed, the Company may redeem the certificate of deposit (and all interest earned thereon).

Cash, cash equivalents and restricted cash presented in the accompanying condensed statements of cash flows consist of the following (in thousands):

| | June 30, 2021 | December 31, 2020 |
|---|---|---|
| Cash and cash equivalents | $ 112,576 | $ 57,448 |
| Restricted cash | 100 | 100 |
| | $ 112,676 | $ 57,548 |

***Revenue Recognition***

Substantially all of the Company's revenue has been derived from sales of its testing products and is primarily comprised of a high volume of relatively low-dollar transactions. The Company primarily markets its testing products to rheumatologists and their physician assistants in the United States. The healthcare professionals who order the Company's testing products and to whom test results are reported are generally not responsible for payment for these products. The parties that pay for these services (each, a payor) consist of healthcare insurers, government payors (primarily Medicare and Medicaid), client payors (i.e., hospitals, other laboratories, etc.), and patient self-pay. The Company's service is a single performance obligation that is completed upon the delivery of test results to the prescribing physician which triggers revenue recognition.

Payors are billed at the Company's list price. Net revenues recognized consist of amounts billed net of allowances for differences between amounts billed and the estimated consideration the Company expects to receive from such payors. The process for estimating revenues and the ultimate collection of accounts receivable involves significant judgment and estimation. The Company follows a standard process, which considers historical denial and collection experience, insurance reimbursement policies and other factors, to estimate allowances and implicit price concessions, recording adjustments in the current period as changes in estimates occur. Further adjustments to the allowances, based on actual receipts, is recorded upon settlement. The transaction price is estimated using an expected value method on a portfolio basis. The Company's portfolios are grouped per payor (i.e. each individual third-party insurance, Medicare, client payors, patient self-pay, etc.) and per test basis.

Collection of the Company's net revenues from payors is normally a function of providing complete and correct billing information to the healthcare insurers and generally occurs within 30 to 90 days of billing. Contracts do not contain significant financing components based on the typical period of time between performance of services and collection of consideration.

*Janssen Promotion Agreement*

In December 2018, the Company entered into a co-promotion agreement (as amended from time to time, the Janssen Agreement) with Janssen Biotech, Inc. (Janssen) to co-promote SIMPONI® in the United States. In August 2021, the Company and Janssen mutually agreed to terminate the Janssen Agreement effective on August 31, 2021.

Pursuant to the Janssen Agreement, the Company was responsible for the costs associated with its sales force over the course of such co-promotion. Janssen was responsible for all other aspects of the commercialization of SIMPONI® under the Janssen Agreement. In exchange for the Company's sales and co-promotional services, the Company was entitled to a quarterly tiered promotion fee based on the incremental increase in total prescribed units of SIMPONI® for that quarter over a predetermined baseline. For the first and second quarters of 2020, the tiered promotion fee ranged from $750 to $1,250 per prescription over a predetermined baseline. Due in part to COVID-19, in June 2020, the Janssen Agreement was amended to adjust the predetermined average baseline for the third and fourth quarters of 2020. The Janssen Agreement was further amended in June 2020 and December 2020 to adjust the predetermined average baseline for prescribed units for the quarters ending December 31, 2020 and March 31, 2021 and was subject to further adjustment under certain circumstances. In June 2021, the Janssen Agreement was again amended to proportionally increase the baseline for prescribed units for the quarter ended June 30, 2021 to reflect the addition of certain geographies to the sales territories covered by the Janssen Agreement. For the first and second quarters of 2021, the Company is entitled to an amended tiered promotion fee ranging from $500 to $1,000 per prescription based on the incremental increase in total prescribed units, and the Company is entitled to receive a promotion fee of at least $0.3 million, but capped at 10% above the adjusted predetermined baseline.

In connection with the Janssen Agreement's termination, the Company is entitled to receive an aggregate of $0.6 million in consideration. During the remainder of the term of the Janssen Agreement and the 9 month period immediately following its termination on August 31, 2021, the Company will be restricted from promoting any other biologic or Janus kinase inhibitor used for treatment of indications covered by the Janssen Agreement without first obtaining Janssen's written consent.

The Company's obligations relating to sales and co-promotion services for SIMPONI® was a series of single performance obligations since Janssen simultaneously received and consumed benefits provided by the Company's sales and co-promotional services. The method for measuring progress towards satisfying the performance obligations was based on prescribed units in excess of the contractual baseline at the contractual rate earned per unit since the Amended Janssen Agreement is cancelable. The Company recognized co-promotion revenue of approximately $0.3 million and $2.1 million during the three months ended June 30, 2021 and 2020, respectively. The Company recognized co-promotion revenue of approximately $0.6 million and $2.1 million during the six months ended June 30, 2021 and 2020, respectively. The related expenses for marketing SIMPONI® are included in selling, general and administrative expenses and are expensed as incurred.

***Research and Development***

Costs associated with research and development activities are expensed as incurred and include, but are not limited to, personnel-related expenses, including stock-based compensation expense, materials, laboratory supplies, consulting costs, costs associated with setting up and conducting clinical studies and allocated overhead including rent and utilities.

***Advertising and Marketing Costs***

Costs associated with advertising and marketing activities are expensed as incurred. Total advertising and marketing costs were approximately $0.4 million and $0.3 million for the three months ended June 30, 2021 and 2020, respectively, and $0.6 million and $0.7 million for the six months ended June 30, 2021 and 2020, respectively, and are included in selling, general and administrative expenses in the accompanying condensed statements of operations.

***Shipping and Handling Costs***

Costs incurred for shipping and handling are included in costs of revenue in the accompanying condensed statements of operations and totaled approximately $0.6 million and $0.3 million for the three months ended June 30, 2021 and 2020, respectively, and $1.0 million and $0.7 million for the six months ended June 30, 2021 and 2020, respectively.

***Stock-Based Compensation***

The Company recognizes compensation expense for all stock-based awards to employees and directors based on the grant-date estimated fair values over the requisite service period of the awards (usually the vesting period) on a straight-line basis. The fair value of stock options and purchases under the Company's 2019 Employee Stock Purchase Plan (ESPP) rights is determined using the Black-Scholes-Merton (BSM) option pricing model, which requires management to make certain assumptions regarding a number of complex and subjective variables. Equity award forfeitures are recorded as they occur.

The BSM option pricing model incorporates various estimates, including the fair value of the Company's common stock, expected volatility, expected term and risk-free interest rates. The weighted-average expected term of options was calculated using the simplified method. The risk-free interest rate for periods within the contractual term of the option is based on the U.S. Treasury yield in effect at the time of grant. The dividend yield was zero, as the Company has never declared or paid dividends and has no plans to do so in the foreseeable future.

The fair value of each restricted stock unit is determined on the grant date using the closing price of the Company's common stock on the grant date and generally vest from the grant date in four equal annual installments subject to the holder's continued service with the Company. The Company issues new shares to satisfy restricted stock units upon vesting.

The fair value of the Company's common stock is determined by using the closing price of its common stock on the corresponding date.

***Comprehensive Loss***

Comprehensive loss is defined as a change in equity of a business enterprise during a period, resulting from transactions from nonowner sources. There have been no items qualifying as other comprehensive loss and, therefore, for all periods presented, the Company's comprehensive loss was the same as its reported net loss.

***Net Loss Per Share***

Basic net loss per share attributable to common stockholders is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common stock equivalents outstanding for the period determined using the treasury-stock and if-converted methods. The weighted-average number of shares in 2021 used to compute basic and diluted shares includes shares issuable upon the exercise of pre-funded warrants at a nominal price. Potentially dilutive common stock equivalents are comprised of warrants for the purchase of common stock, options and restricted stock units outstanding under the Company's 2019 Incentive Award Plan (the 2019 Plan) and shares of the Company's common stock pursuant to the ESPP. For the three and six months ended June 30, 2021 and 2020, there is no difference in the number of shares used to calculate basic and diluted shares outstanding as the inclusion of the potentially dilutive securities would be antidilutive.

Potentially dilutive securities not included in the calculation of diluted net loss per share because to do so would be anti-dilutive are as follows (in common stock equivalent shares):

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| Warrants to purchase common stock | 426,827 | 426,827 | 426,827 | 426,827 |
| Common stock options | 2,123,617 | 1,677,000 | 2,123,617 | 1,677,000 |
| Restricted stock units | 375,525 | — | 375,525 | — |
| Employee stock purchase plan | 12,525 | 10,259 | 12,525 | 10,259 |
| Total | 2,938,494 | 2,114,086 | 2,938,494 | 2,114,086 |

***Government Assistance Grant Income***

Government assistance grants which are unconditional when received and intended to compensate for expenses incurred or replace lost revenue are recognized when those expenses are incurred or during the period that lost revenue is experienced, and the net amount is included in other income in the accompanying condensed statements of operations.

***Segment Reporting***

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. The Company views its operations as, and manages its business in, one operating segment.

***Recent Accounting Pronouncements Not Yet Adopted***

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (FASB), or other standard setting bodies and adopted by the Company as of the specified effective date. Under the Jumpstart Our Business Startups Act of 2012 (JOBS Act), the Company meets the definition of an emerging growth company. The Company has elected to use the extended transition period for complying with new or revised accounting standards pursuant to Section 107(b) of the JOBS Act. Unless otherwise discussed, the impact of

recently issued standards that are not yet effective will not have a material impact on the Company's financial position or results of operations upon adoption.

In February 2016, the FASB issued Accounting Standards Update (ASU) 2016-02, *Leases* (Topic 842). The new topic supersedes Topic 840, *Leases*, and increases transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and requires disclosures of key information about leasing arrangements. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842*, which provides narrow amendments to clarify how to apply certain aspects of the new lease standard, and ASU 2018-11, *Leases: Targeted Improvements*, which was issued to provide relief to companies from restating comparative periods. Pursuant to this ASU, in the period of adoption the Company will not restate comparative periods presented in its condensed financial statements. The effective date of this guidance for public companies is for reporting periods beginning after December 15, 2018. In June 2020, the FASB issued ASU 2020-05, which delays the adoption of ASU 2016-02 for non-public entities to fiscal years beginning after December 15, 2021, and interim periods beginning after December 15, 2022. As an emerging growth company as defined in the JOBS Act, the Company has elected to delay adoption of this ASU until January 1, 2022. Topic 842 mandates a modified retrospective transition method. The Company intends to adopt the new lease standard using a cumulative effect to accumulated deficit and will elect the package of practical expedients, which among other things will allow the Company to carry forward its historical lease classification. The Company is currently evaluating the impact of Topic 842 on its condensed financial statements.

***Recently Adopted Accounting Standards***

In December 2019, the FASB issued ASU 2019-12, *Simplifying the Accounting for Income Taxes*. The new guidance removes certain exceptions to the general principles of ASC 740 in order to simplify the complexities of its application. These changes include eliminations to the exceptions for intraperiod tax allocation, recognizing deferred tax liabilities related to outside basis differences, and year-to-date losses in interim periods, among others. The effective date of this guidance for public companies is for fiscal years, and interim period within those fiscal years, beginning after December 15, 2020. The Company adopted this guidance on January 1, 2021, and the adoption did not have a material impact on its condensed financial statements.

**Note 3. Other Financial Information**

***Prepaid Expenses and Other Current Assets***

Prepaid expenses and other current assets consist of the following (in thousands):

| | June 30, 2021 | December 31, 2020 |
|---|---|---|
| Diagnostic testing supplies | $ 986 | $ 1,203 |
| Prepaid product royalties | 61 | 68 |
| Prepaid maintenance and insurance contracts | 1,701 | 2,229 |
| Other prepaid and other current assets | 424 | 659 |
| Prepaid and other current assets | $ 3,172 | $ 4,159 |

***Property and Equipment***

Property and equipment consist of the following (in thousands):

| | June 30, 2021 | December 31, 2020 |
|---|---|---|
| Furniture and fixtures | $ 83 | $ 64 |
| Laboratory equipment | 3,856 | 2,679 |
| Computer equipment and software | 1,079 | 927 |
| Leasehold improvements | 1,132 | 1,072 |
| Construction in progress | 252 | 301 |
| Total property and equipment | 6,402 | 5,043 |
| Less: accumulated depreciation and amortization | (3,348) | (2,941) |
| Property and equipment, net | $ 3,054 | $ 2,102 |

Depreciation and amortization expense for each of the three months ended June 30, 2021 and 2020 was approximately $0.2 million, and for the six months ended June 30, 2021 and 2020, was approximately $0.4 million and $0.3 million, respectively. At June 30, 2021 and December 31, 2020, the gross book value of assets under capital lease was $2.3 million and $1.2 million, respectively, and is classified in "Laboratory equipment" in the table above.

***Accrued and Other Current Liabilities***

Accrued and other current liabilities consist of the following (in thousands):

| | June 30, 2021 | December 31, 2020 |
|---|---|---|
| Accrued payroll and related expenses | $ 3,491 | $ 3,589 |
| Accrued interest | 144 | 147 |
| Accrued purchases of goods and services | 570 | 311 |
| Accrued royalties | 193 | 221 |
| Accrued clinical study activity | 269 | 228 |
| Capital lease obligations, current portion | 547 | 308 |
| Other accrued liabilities | 601 | 953 |
| Accrued and other current liabilities | $ 5,815 | $ 5,757 |

**Note 4. Borrowings**

*2017 Term Loan*

In September 2017, the Company executed a term loan agreement (the 2017 Term Loan) with Innovatus Life Sciences Lending Fund I, LP (Innovatus) and borrowed $20.0 million, $17.8 million of which was immediately used to repay the Company's existing loan with Capital Royalty Partners II L.P. and its affiliates. On December 7, 2018, the Company borrowed an additional $5.0 million under the 2017 Term Loan. At June 30, 2021, no additional amounts remain available to borrow under the 2017 Term Loan.

In November 2019, the Company executed the First Amendment to the Loan and Security Agreement (the 2017 Loan Amendment). The interest rate on all borrowings under the Loan Amendment is 8.5%, of which 2.0% is paid in-kind in the form of additional term loans (PIK Loans) until December of 2022, after which interest accrues at an annual rate of 8.5%. The Company has estimated the effective interest rate of this loan to be approximately 10%. Accrued interest is due and payable monthly, unless the Company elects to pay paid-in-kind interest. The outstanding principal and accrued interest on the Loan Amendment will be repaid in twenty-four equal monthly installments commencing in December 2022. Upon repayment of the final installment under the Loan Amendment, the Company is required to pay an additional fee of $1.0 million. This obligation is being accreted into interest expense over the term of Loan Amendment using the effective interest method. For each of the three months ended

June 30, 2021 and 2020, the Company issued PIK Loans totaling $0.1 million. For each of the six months ended June 30, 2021 and 2020, the Company issued PIK Loans totaling $0.3 million.

The Loan Amendment requires a prepayment premium of 2% of the aggregate outstanding principal. The prepayment premium decreases by 1% on November 19, 2021 and 2022.

The Loan Amendment is collateralized by a first priority security interest in substantially all of the Company's assets, including intellectual property. The affirmative covenants of the Loan Amendment require that the Company timely file taxes, maintain good standing and government compliance, maintain liability and other insurance, provide prompt notification of significant corporate events, and furnish audited financial statements within 150 days of fiscal year end without qualification as to the scope of the audit or as to going concern and without any other similar qualification.

The affirmative covenants require that the Company achieve a specified level of revenue, as measured quarterly on a rolling twelve-month basis. The consequences of failing to achieve the performance covenant may be cured if, within sixty days of failing to achieve the performance covenant, the Company issues additional equity securities or subordinated debt with net proceeds sufficient to fund any cash flow deficiency generated from operations, as defined. The Loan Amendment requires that the Company maintain certain levels of minimum liquidity and maintains an unrestricted cash balance of $2.0 million.

The negative covenants provide, among other things, that without the prior consent of Innovatus subject to certain exceptions, the Company may not dispose of certain assets, engage in certain business combinations or acquisitions, incur additional indebtedness or encumber any of the Company's property, pay dividends on the Company's capital stock or make prohibited investments. The Loan Amendment agreement provides that an event of default will occur if, among other triggers, (i) the Company defaults in the payment of any amount payable under the agreement when due, (ii) there occurs any circumstance(s) that could reasonably be expected to result in a material adverse effect on the Company's business, operations or condition, or on the Company's ability to perform its obligations under the agreement, (iii) the Company becomes insolvent, (iv) the Company undergoes a change in control or (v) the Company breaches any negative covenants or certain affirmative covenants in the agreement or, subject to a cure period, otherwise neglects to perform or observe any material item in the agreement.

At June 30, 2021, the Company was in compliance with all covenants of the Loan Amendment.

Upon an event of default in any of the Loan Amendment covenants, the repayment of the Loan Amendment may be accelerated, and the applicable interest rate will be increased by 4.0% until the default is cured. Although repayment of the Loan Amendment can be accelerated under certain circumstances, the Company believes acceleration of this loan is not probable as of the date of these condensed financial statements. Accordingly, the Company has reflected the amounts of the Loan Amendment due beyond twelve months of the balance sheet date as non-current.

*Future Minimum Payments on the Outstanding Borrowings*

As of June 30, 2021, future minimum aggregate payments, including interest, for outstanding borrowings under the Loan Amendment are as follows (in thousands):

| | June 30, 2021 |
|---|---|
| 2021 (remaining) | $ 889 |
| 2022 | 2,996 |
| 2023 | 15,619 |
| 2024 | 14,280 |
| Total | 33,784 |
| Less: | |
| Unamortized debt discount and issuance costs | (249) |
| Interest | (6,462) |
| Total borrowings, net of discounts and debt issuance costs | $ 27,073 |

**Note 5. Commitments and Contingencies**

***Leases***

As of June 30, 2021, the Company leases office and laboratory space in Vista, California, under leases that expire in January 2026, with an option to extend a portion of the lease for an additional 5-year period. In addition, the Company also leases additional office space in Vista, California, under a lease that expires in January 2026 with an option to extend the lease for an additional 5-year period. The Company's lease payments under each of these leases are subject to escalation clauses.

For the three months ended June 30, 2021 and 2020, rent expense was $0.2 million and $0.1 million, respectively. For the six months ended June 30, 2021 and 2020, rent expense was $0.3 million and $0.2 million, respectively.

***Acquisition-related liabilities***

In connection with the acquisition of the medical diagnostics division of Cypress Bioscience, Inc. in 2010, the Company was required to pay certain amounts in the event that certain revenue milestones were achieved and upon the first commercial sale of a product associated with this acquisition. The acquisition also included amounts that may be due under several licensing agreements. As of June 30, 2021 and December 31, 2020, the remaining potential milestone obligation is for an additional $2.0 million payment to Prometheus Laboratories, Inc. (Prometheus) for which the fair value was determined to be zero at June 30, 2021 and December 31, 2020.

In addition, the Company has ongoing royalty payment obligations of 2.5% on net sales of products which incorporate certain acquired technologies. Future royalties payable under these arrangements are limited to the lesser of (i) an aggregate of $1.2 million (including an upfront payment of $100,000) and (ii) the total royalties earned through January 1, 2024.

***Licensing Agreements***

The Company has licensed technology for use in its diagnostic tests. In addition to the milestone payments required by these agreements as described above, individual license agreements generally provide for ongoing royalty payments ranging from 1.5% to 3.0% on net sales of products which incorporate licensed technology, as defined in such agreements. Royalties are accrued when earned and recorded in costs of revenue in the accompanying condensed statement of operations.

In May 2021, the Company entered into an exclusive license agreement with Allegheny Health Network Research Institute, or AHN, to obtain an exclusive license to AHN's patent rights in certain inventions, pursuant to which the Company paid AHN an initial license fee of $0.4 million. In addition, under the terms of the exclusive license agreement, the Company is required to pay the greater of royalties in the low single digits on net sales of diagnostic tests using the assigned patents or a flat annual minimum royalty amount, pending approvals and commercialization.

***Supply Agreement***

In September 2020, the Company entered into an amended supply agreement with one supplier for reagents which includes minimum annual purchase commitments of $4.1 million and $6.0 million for the years ended December 31, 2021 and 2022, respectively, with a 15% annual increase thereafter through the year ended December 31, 2025.

***Collaboration Obligations***

In May 2021, the Company entered into a master research collaboration agreement with AHN, pursuant to which the Company is required to pay AHN a collaboration fee of $0.4 million for each year during the initial term of the agreement. Collaboration expenses under the master research collaboration agreement were $67,000 for the three and six months ended June 30, 2021. Collaboration expenses under the AHN collaboration are included in research and development expenses.

***Contingencies***

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications; including subpoenas and other civil investigative demands, from governmental agencies, Medicare or Medicaid payors and managed care organizations reviewing billing practices or requesting comment on allegations of billing irregularities that are brought to their attention through billing audits or third parties. The Company's exposure under these agreements is unknown because it involves claims that may be made against the Company in the future, but have not yet been made or that the Company believes to be immaterial. The Company accrues a liability for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated.

***Litigation***

From time to time, the Company may be subject to various legal proceedings that arise in the ordinary course of business activities.

**Note 6. Fair Value Measurements**

The following table sets forth the Company's financial instruments that were measured at fair value on a recurring basis within the fair value hierarchy (in thousands):

| | June 30, 2021 | | | |
|---|---|---|---|---|
| | Total | Level 1 | Level 2 | Level 3 |
| **Assets:** | | | | |
| Money market funds, included in cash and cash equivalents | $ 105,719 | $ 105,719 | $ — | $ — |

| | December 31, 2020 | | | |
|---|---|---|---|---|
| | Total | Level 1 | Level 2 | Level 3 |
| **Assets:** | | | | |
| Money market funds, included in cash and cash equivalents | $ 34,507 | $ 34,507 | $ — | $ — |

The fair value of the Company's money market funds is based on quoted market prices.

**Note 7. Stockholders' Equity**

***Common Stock***

On November 10, 2020, the Company filed a registration statement on Form S-3 (the Shelf Registration Statement), covering the offering, from time to time, of up to $150.0 million of common stock, preferred stock, debt securities, warrants and units, which Shelf Registration Statement became effective on November 19, 2020.

On March 25, 2021, the Company completed a public offering of 4,255,000 shares of its common stock at a public offering price of $16.25 per share. Net proceeds from the offering were approximately $64.7 million, after deducting underwriting discounts and commissions and offering expenses of $4.4 million. The shares were registered pursuant to the Company's Shelf Registration Statement discussed above.

***Exchange Agreement***

On June 22, 2021, the Company entered into an exchange agreement (the Exchange Agreement) with an Investor and its affiliates (the Exchanging Stockholders), pursuant to which the Company exchanged an aggregate of 804,951 shares of the Company's common stock owned by the Exchanging Stockholders for pre-funded warrants (the Exchange Warrants) to purchase an aggregate of 804,951 shares of common stock (subject to adjustment in the event of any stock dividends and splits, reverse stock split, recapitalization, reorganization or similar transaction, as described in the Exchange Warrants), with an exercise price of $0.001 per share. The Exchange Warrants do not expire and are exercisable at any time except that the Exchange Warrants cannot be exercised by the Exchanging Stockholders if, after giving effect thereto, the Exchanging Stockholders would beneficially own more than 4.99% of

the Company's common stock, which percentage may change at the Exchanging Stockholder's election to any other percentage upon 61 days' notice to the Company. The Company recorded the retirement of the common stock exchanged as a reduction of common shares outstanding and additional paid-in-capital at the fair value of the Exchange Warrants on the issuance date. The Exchange Warrants are classified as equity and the fair value of the Exchange Warrants was recorded as an increase to additional paid-in-capital and is not subject to remeasurement. The Company determined that the fair value of the Exchange Warrants is substantially similar to the fair value of the retired shares on the issuance date due to the negligible exercise price for the Exchange Warrants. As of June 30, 2021, none of the Exchange Warrants have been exercised.

***Outstanding Warrants***

The following equity classified warrants to purchase common stock were outstanding as of June 30, 2021:

| | Shares | Exercise Price | Issuance date | Expiration date |
|---|---|---|---|---|
| Common stock warrants | 252,798 | $ 1.84 | January 19, 2016 | January 19, 2026 |
| Common stock warrants | 69,176 | 1.84 | March 31, 2016 | March 31, 2026 |
| Common stock warrants | 131 | 1.84 | April 1, 2016 | April 1, 2026 |
| Common stock warrants | 83,778 | 14.32 | September 7, 2017 | September 7, 2024 |
| Common stock warrants | 20,944 | 14.32 | December 7, 2018 | December 7, 2025 |
| Common stock warrants (Exchange Warrants) | 804,951 | 0.001 | June 22, 2021 | None |
| | 1,231,778 | | | |

**Note 8. Stock Option Plan**

***2019 Incentive Award Plan***

In September 2019, the Company's Board of Directors adopted, and the Company's stockholders approved, the 2019 Plan. Under the 2019 Plan, which expires in September 2029, the Company may grant stock options, stock appreciation rights, restricted stock, restricted stock units and other awards to individuals who are then employees, officers, non-employee directors or consultants of the Company or its subsidiaries. The options generally expire ten years after the date of grant and are exercisable to the extent vested. Vesting is established by the Board of Directors and is generally four years from the date of grant. As of June 30, 2021, 1,112,598 shares of common stock remained available for future awards.

***2019 Employee Stock Purchase Plan***

In September 2019, the Board of Directors adopted, and the Company's stockholders approved, the ESPP. The ESPP became effective on the day the ESPP was adopted by the Company's Board of Directors. The ESPP permits participants to purchase common stock through payroll deductions of up to 20% of their eligible compensation. As of June 30, 2021, 345,493 shares of common stock remained available for issuance under the ESPP.

***Stock Options***

Stock option activity under the Company's 2019 Plan is set forth below:

| | Number of Options | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term (Years) | Aggregate Intrinsic Value |
|---|---|---|---|---|
| Outstanding, December 31, 2020 | 1,975,761 | $ 11.81 | 8.71 | $ 6,750 |
| Granted | 214,850 | $ 17.11 | | |
| Exercised | (9,436) | $ 8.41 | | |
| Forfeited | (54,766) | $ 12.12 | | |
| Expired | (2,792) | $ 26.27 | | |
| Outstanding, June 30, 2021 | 2,123,617 | $ 12.33 | 7.96 | $ 8,932 |
| Vested and expected to vest, June 30, 2021 | 2,123,617 | $ 12.33 | 7.96 | $ 8,932 |
| Options exercisable, June 30, 2021 | 812,611 | $ 10.04 | 7.47 | $ 5,125 |

The intrinsic value is calculated as the difference between the fair value of the Company's common stock and the exercise price of the stock options. As of June 30, 2021, total unrecognized compensation cost related to option awards was $9.1 million, which is expected to be recognized over a remaining weighted-average vesting period of 2.4 years.

***Restricted Stock Units***

Restricted stock unit activity under the Company's 2019 Plan is set forth below:

| | Number of Shares | Weighted-Average Grant Date Fair Value | Aggregate Intrinsic Value |
|---|---|---|---|
| Outstanding, December 31, 2020 | — | $ — | $ — |
| Awards granted | 389,700 | $ 17.19 | |
| Awards released | — | $ — | |
| Awards canceled | (14,175) | $ 16.29 | |
| Outstanding, June 30, 2021 | 375,525 | $ 17.22 | $ 5,629 |

As of June 30, 2021, all of the outstanding restricted stock units are unvested. As of June 30, 2021, total unrecognized compensation cost related to restricted stock units was $6.0 million, which is expected to be recognized over a remaining weighted-average vesting period of 3.7 years.

***Stock-Based Compensation Expense***

*Stock Options*

The fair value of employee stock options was estimated using the following assumptions to determine the fair value of stock options granted:

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| Expected volatility | 83% | 51% | 83%-84% | 47%-51% |
| Risk-free interest rate | 1.1% | 0.4% | 0.8%-1.1% | 0.4%-1.7% |
| Dividend yield | — | — | — | — |
| Expected term (in years) | 5.50-6.08 | 5.50-6.08 | 5.50-6.08 | 5.50-6.08 |

*Employee Stock Purchase Plan*

The following assumptions were used to calculate the stock-based compensation for each stock purchase right granted under the ESPP:

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| Expected volatility | 60% | 58% | 60% | 58% |
| Risk-free interest rate | 0.1% | 1.1% | 0.1% | 1.1% |
| Dividend yield | — | — | — | — |
| Expected term (in years) | 0.50 | 0.50 | 0.50 | 0.50 |

Stock-based compensation expense for the ESPP was immaterial for the three and six months ended June 30, 2021 and 2020. As of June 30, 2021, total unrecognized compensation cost related to stock purchase rights granted under the ESPP was an immaterial amount, which is expected to be recognized over a remaining weighted-average vesting period of 0.2 years.

Total non-cash stock-based compensation expense recorded related to options granted, restricted stock units granted and stock purchase rights granted under the ESPP in the condensed statement of operations is as follows (in thousands):

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| Cost of revenue | $ 61 | $ 6 | $ 72 | $ 12 |
| Selling, general and administrative | 1,049 | 564 | 1,840 | 986 |
| Research and development | 175 | 77 | 285 | 80 |
| Total | $ 1,285 | $ 647 | $ 2,197 | $ 1,078 |

**Note 9. COVID-19**

During 2020, due to the worldwide COVID-19 pandemic, the Company experienced a reduction in patient test volumes, delays in patient enrollment in ongoing and planned clinical studies, and delays in the procurement of its testing supplies. In response to the pandemic, the Company has curtailed non-essential employee travel, equipped employees with the ability to work remotely with the exception of clinical laboratory employees, and reduced marketing spend and employee headcount. The full extent to which the COVID-19 pandemic will directly or indirectly continue to impact the Company's business, results of operations and financial condition, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning COVID-19 and the actions taken to contain it or treat COVID-19, including, the success of ongoing vaccination efforts, the emergence and prevalence of variant strains of COVID-19, the institution or reinstitution of shutdowns, "stay-at-home-orders" and other public health measures as well as the related economic impact of these matters on local, regional and international markets.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted in response to the COVID-19 pandemic. The CARES Act, among other things, permits NOL carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. The CARES Act did not have a material impact on the Company's effective tax rate or income tax provision for the three months ended March 31, 2020. Under the Tax Cuts and Jobs Act (TCJA), NOLs generated post TCJA were allowed to be carried forward indefinitely but were only allowed to offset 80% of taxable income. As a result of the CARES Act and the change to permit NOLs generated in taxable years 2018, 2019 and 2020 to offset 100% of taxable income, the Company released valuation allowance against its deferred tax assets in the amount of $0.1 million. The release of valuation allowance resulted in a discrete tax benefit of $0.1 million in the first quarter of 2020.

In April 2020, the Company received $0.7 million of funding under the CARES Act Provider Relief Fund, subject to the Company's agreement to comply with the Department of Health & Human Services' standard terms and conditions. The CARES Act Provider Relief Fund is a federal fund allocated for general distributions to Medicare facilities and providers impacted by the COVID-19 pandemic and is intended to support COVID-related expenses or lost revenue attributable to COVID-19. The funding received is considered a government grant which is recognized when there is reasonable assurance that the grant will be received and that conditions attached to the grant have been met. During the three and six months ended June 30, 2020, the Company recognized $0.7 million due to lost revenue attributable to COVID-19, which is reflected in other income, net, on its condensed statements of operations.

On April 16, 2020, the Company entered into a promissory note (the Note) with BOKF, NA dba Bank of Oklahoma (BofO), the lender, evidencing an unsecured loan pursuant to the U.S. Small Business Administration (SBA) Paycheck Protection Program (PPP) of the CARES Act of approximately $2.9 million (the PPP Loan). The Company applied for and received the PPP Loan pursuant to the then published PPP qualification and certification requirements. On April 23, 2020, the SBA, in consultation with the Department of Treasury, issued new guidance that created uncertainty regarding the qualification requirements for the PPP Loan (the New Guidance). In light of the New Guidance, on May 11, 2020, the Company paid off in full the principal and interest on the PPP Loan, resulting in the termination of the Note.

On December 27, 2020, the Consolidated Appropriations Act, 2021 was signed into law. It provides additional COVID-19 focused relief and extends certain provisions of the CARES Act. At this time, the Company does not believe that the Consolidated Appropriations Act, 2021 has a material impact on its financial statements.

## 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 in conjunction with the unaudited condensed financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q and with our audited financial statements and notes thereto for the year ended December 31, 2020 included in our Annual Report on Form 10-K for the year ended December 31, 2020, as amended.*

### Forward Looking Statements

*The following discussion and other parts of this quarterly report contain forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical facts contained in this quarterly report, including statements regarding our future results of operations and financial position, business strategy, the impact of the COVID-19 pandemic, current and future product offerings, reimbursement and coverage, our ability to implement an integrated testing and therapeutics strategy, the expected benefits from our partnerships or promotion arrangements with third-parties, research and development costs, timing and likelihood of success and plans and objectives of management for future operations, are forward-looking statements. These statements are often identified by the use of words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "should," "estimate," or "continue," and similar expressions or variations. The forward-looking statements in this quarterly report are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, operating results, business strategy, and short-term and long-term business operations and objectives. These forward-looking statements speak only as of the date of this quarterly report and are subject to a number of risks, uncertainties and assumptions, including those described in Part II, Item 1A, "Risk Factors." The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.*

### Overview

We are dedicated to transforming the care continuum for patients suffering from debilitating and chronic autoimmune diseases by enabling timely differential diagnosis and optimizing therapeutic intervention. We have developed and are commercializing a portfolio of innovative testing products under our AVISE® brand, several of which are based on our proprietary CB-CAPs technology. Our goal is to enable rheumatologists to improve care for patients through the differential diagnosis, prognosis and monitoring of complex autoimmune and autoimmune-related diseases, including systemic lupus erythematosus, or SLE, and rheumatoid arthritis, or RA. Our strategy includes leveraging our portfolio of testing products to market therapeutics through our sales channel, targeting the approximately 5,000 rheumatologists across the United States. Our business model of integrating testing products and therapeutics positions us to offer targeted solutions to rheumatologists and, ultimately, better serve patients.

We currently market 10 testing products under our AVISE® brand that allow for the differential diagnosis, prognosis and monitoring of complex autoimmune and autoimmune-related diseases. Our lead testing product, AVISE® CTD, enables differential diagnosis for patients presenting with symptoms indicative of a wide variety of CTDs and other related diseases with overlapping symptoms. We commercially launched AVISE® CTD in 2012 and revenue from this product comprised 81% and 72% of our revenue for the six months ended June 30, 2021 and 2020, respectively. There is an unmet need for rheumatologists to add clarity in their CTD clinical evaluation, and we believe there is a significant opportunity for our tests that enable the differential diagnosis of these diseases, particularly for potentially life-threatening diseases such as SLE.

We are leveraging our portfolio of testing products to establish partnerships with leading pharmaceutical companies, academic research centers and patient advocacy organizations. We also have agreements with GlaxoSmithKline plc., or GSK, Covance Inc. and Parexel, among others, that leverage our testing products and/or the information generated from such tests. We provide GSK, a leader in lupus therapeutics, our test result data to provide market insight into and help increase awareness of the benefits of early and accurate diagnosis of SLE and lupus nephritis, and monitoring disease activity. We partner with academic research centers and patient advocacy organizations, such as Brigham and Women's Hospital, Hospital for Special Surgery, Duke University and Emory University as well

as the Lupus Foundation of America, to help improve the quality of life for people affected by autoimmune diseases through programs of research, education, support and advocacy. We plan to pursue additional strategic partnerships that are synergistic with our evolving portfolio of testing products.

We perform all of our AVISE® tests in our approximately 10,000 square foot clinical laboratory, which is certified under the Clinical Laboratory Improvement Amendments of 1988, or CLIA, by the Centers for Medicare and Medicaid Services, or CMS, and accredited by the College of American Pathologists, or CAP, and located in Vista, California. Our laboratory is certified for performance of high-complexity testing by CMS in accordance with CLIA and is licensed by all states requiring out-of-state licensure. Our clinical laboratory reports all AVISE® testing product results within five business days. In the second half of 2021, we expect to begin the conversion of approximately 8,000 square feet of warehouse space into additional clinical laboratory space and approximately 6,000 square feet of warehouse space into additional research and development facility space, and expect to complete such conversion in the third quarter of 2022. The expansion of our clinical laboratory and research and development facility are expected to allow us to enhance our testing capacity and improve efficiencies as well as allow us to develop molecular and multiomic capabilities and advance our product pipeline, including support of development of tests for fibromyalgia, RA, thrombosis and lupus nephritis.

We market our AVISE® testing products using our specialized sales force. As of June 30, 2021, we have a sales force of 60 representatives covering a total of 63 territories. Unlike many diagnostic sales forces that are trained only to understand the comparative benefits of their tests, the specialized backgrounds of our sales force coupled with our comprehensive training enables our sales representatives to interpret results from our de-identified patient test reports and provide unique insights in a highly tailored discussion with rheumatologists. Our integrated testing and therapeutics strategy results in a unique opportunity to promote and sell targeted therapies in patient focused sales calls with rheumatologists, including those with whom we have a longstanding relationship and history using our portfolio of testing products.

Reimbursement for our testing services comes from several sources, including commercial third-party payors, such as insurance companies and health maintenance organizations, government payors, such as Medicare, and patients. Reimbursement rates vary by product and payor. We continue to focus on expanding coverage among existing contracted rheumatologists and to achieve coverage with commercial payors, laboratory benefit managers and evidence review organizations.

Since inception we have devoted substantially all of our efforts developing and marketing products for the diagnosis, prognosis and monitoring of autoimmune diseases. Although our revenue has increased sequentially year over year, we have never been profitable and, as of June 30, 2021 we had an accumulated deficit of $193.9 million. We incurred net losses of $12.6 million and $8.9 million for the six months ended June 30, 2021 and 2020, respectively. We expect to continue to incur operating losses in the near term as our operating expenses will increase to support the growth of our business, as well as additional costs associated with being a public company. We have funded our operations primarily through equity and debt financings and revenue from sales of our products. We completed our initial public offering, or IPO, in September 2019, raising net proceeds from the offering of approximately $50.4 million, net of underwriting discounts, commissions and other offering expenses, for aggregate expenses of approximately $7.5 million. In March 2021, we completed a public offering of 4,255,000 shares of our common stock at a public offering price of $16.25 per share. Net proceeds from the offering were approximately $64.7 million, net of underwriting discounts and commissions and offering costs of $4.4 million. As of June 30, 2021, we had $112.6 million of cash and cash equivalents.

**Impact of COVID-19**

The current COVID-19 worldwide pandemic has presented substantial public health challenges and is affecting our employees, patients, physicians and other healthcare providers, communities and business operations, as well as the U.S. and global economies and financial markets. International and U.S. governmental authorities in impacted regions have taken actions in an effort to slow the spread of COVID-19, including issuing varying forms of "stay-at-home" orders, restricting business functions outside of one's home, restricting gatherings, restricting travel, and mandating social distancing and face coverings. Certain jurisdictions have begun a phased re-opening, although the potential to return to prior restrictions remains if there are increases (or, in some jurisdictions, continued increases) in new cases of COVID-19 or any of its viral variants in the future. Even in areas where "stay-at-home" restrictions have been lifted and the number of COVID-19 cases have declined, many individuals remain cautious about resuming activities such as preventative-care medical visits. As a result of COVID-19 related limitations and reordering of priorities across the U.S. healthcare system, a reduction in patient flow occurred and our test volumes

began to decrease in the second half of March 2020 and we experienced an AVISE® CTD volume decrease of approximately 5% in the year ended December 31, 2020 as compared to 2019. In the fourth quarter 2020, our volume of AVISE® CTD tests delivered substantially recovered to pre-COVID-19 levels. For the three months ended June 30, 2021 as compared to the same period in 2020, we experienced a AVISE® CTD test volume increase of approximately 80%. For the six months ended June 30, 2021 as compared to the same period in 2020, we experienced a AVISE® CTD test volume increase of approximately 37%. However, the continued spread of COVID-19, the extent of which is highly uncertain, may adversely affect testing volumes in future periods.

In addition, we believe there are several other important factors that have impacted, and that we expect will impact our operating performance and results of operations, including shutdowns of our facilities and operations as well as those of our suppliers and courier services, disruptions to the supply chain of material needed for our tests, our sales and commercialization activities and our ability to receive specimens and perform or deliver the results from our tests, delays in reimbursement and coverage decisions from Medicare and third-party payors and in interactions with regulatory authorities, as well as our inability to achieve volume-based pricing discounts with our key suppliers and absorb fixed laboratory expenses. For example, we have experienced delays in patient enrollment for ongoing and planned clinical studies involving our tests, which may delay or prevent launch of future test products. We have also experienced delays in procurement of our testing supplies due to suppliers rationing testing supplies and prioritizing COVID-19 testing beginning in the first quarter of 2021, which may continue into the future, and our partners may also experience a disruption in their ability to readily obtain supply. Our sales force has been, and for an extended period of time may continue to be limited, in their in-person interactions with healthcare providers, and therefore, also limited in their ability to engage in various types of healthcare provider education activities. Healthcare providers and patients have canceled or delayed scheduling, and for an extended period of time may continue to cancel or delay scheduling, standard wellness visits and other non-emergency appointments and procedures, contributing to a decline in orders of our testing products. The portion of our workforce which has been working remotely in an effort to reduce the spread of COVID-19, may be infected from the virus or otherwise distracted. We may also face increased competition for laboratory employees due to the increased demand in the industry for such personnel. We may inaccurately estimate the duration or severity of the COVID-19 pandemic, which could cause us to misalign our staffing, spending, activities and precautionary measures with market current or future market conditions.

In response to the COVID-19 pandemic, we initially curtailed non-essential travel and have equipped most of our employees with the ability to work remotely with the exception of our clinical laboratory employees, and implemented measures to protect the health of our employees and to support the functionality of our clinical laboratory, such as providing personal protective equipment (including face masks or shields) and maintaining social distancing. In addition, in the second quarter of 2020, our sales force recommenced certain field-based interactions and scaled marketing spend, although access to healthcare providers remains limited and the use of virtual sales tools has increased. From March 2020 through December 31, 2020, as a result of the COVID-19 pandemic, we terminated our temporary employees and 18 full-time employees, which included three employees at the vice president level. The full extent of which the COVID-19 pandemic will directly or indirectly continue to impact our business, results of operations and financial condition, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning COVID-19 and the actions taken to contain it or treat COVID-19, including, the success of ongoing vaccination efforts, the emergence and prevalence of variant strains of COVID-19, the institution or reinstitution of shutdowns, "stay-at-home-orders" and other public health measures as well as the related economic impact of these matters on local, regional and international markets.

**Factors Affecting Our Performance**

In addition to the impact of COVID-19, we believe there are several important factors that have impacted, and that we expect will impact, our operating performance and results of operations, including:

- ***Continued Adoption of Our Testing Products.*** Since the launch of AVISE® CTD in 2012 and through June 30, 2021, we have delivered over 549,000 of these tests. Through the second quarter of 2021, 62,357 AVISE® CTD tests were delivered, representing approximately 37% growth over the same period in 2020. The number of ordering healthcare providers in the second quarter of 2021 was a record 1,934, representing an approximate 34% increase over the same period in 2020, and we had a record 703

adopting healthcare providers (defined as those who previously prescribed at least 11 diagnostic tests in the corresponding period) compared to 428 in the same period in 2020. A high percentage of adopting healthcare providers continue to order tests in subsequent quarters, as approximately 99% of adopting healthcare providers from the first quarter of 2021 ordered at least one diagnostic test in the second quarter of 2021. Revenue growth for our testing products will depend on our ability to continue to expand our base of ordering healthcare providers and increase our penetration with existing healthcare providers.

- ***Reimbursement for Our Testing Products***. Our revenue depends on achieving broad coverage and reimbursement for our tests from third-party payors, including both commercial and government payors such as Medicare. Payment from third-party payors differs depending on whether we have entered into a contract with the payors as a "participating provider" or do not have a contract and are considered a "non-participating provider." Payors will often reimburse non-participating providers, if at all, at a lower amount than participating providers. We have received a substantial portion of our revenue from a limited number of third-party commercial payors, most of which have not contracted with us to be a participating provider. Historically, we have experienced situations where commercial payors proactively reduced the amounts they were willing to reimburse for our tests, and in other situations, commercial payors have determined that the amounts they previously paid were too high and have sought to recover those perceived excess payments by deducting such amounts from payments otherwise being made. When we contract to serve as a participating provider, reimbursements are made pursuant to a negotiated fee schedule and are limited to only covered indications. If we are not able to obtain or maintain coverage and adequate reimbursement from third-party payors, we may not be able to effectively increase our testing volume and revenue as expected. Additionally, retrospective reimbursement adjustments can negatively impact our revenue and cause our financial results to fluctuate.
- ***Success of Synergistic Partnerships***. In August 2021, we mutually agreed to terminate the Janssen Agreement regarding our promotion efforts with SIMPONI® effective August 31, 2021. Our SIMPONI promotion efforts contributed approximately $0.6 million and $2.1 million in revenue for the six months ended June 30, 2021 and 2020, respectively. We will continue to rely on our existing testing products to drive revenue growth and intend to leverage our integrated testing and therapeutics strategy to establish partnerships with a focus on the development and commercialization of therapeutics that are synergistic with our testing products.
- ***Development of Additional Testing Products.*** We rely on sales of our AVISE® CTD test to generate the significant majority of our revenue. We expect to continue to invest in research and development in order to develop additional testing products and expect these costs to increase. Our success in developing new testing products will be important in our efforts to grow our business by expanding the potential market for our testing products and diversifying our sources of revenue.
- ***Maintain Meaningful Margin***. We believe we are well positioned to maintain meaningful margin through a continued focus on increasing operating leverage through the implementation of certain internal initiatives, such as conducting additional validation and reimbursement oriented clinical studies to facilitate payor coverage of our testing products, capitalizing on our growing reagent purchasing to negotiate improved volume-based pricing and automation in our clinical laboratory to reduce material and labor costs.
- ***Timing of Our Research and Development Expenses***. Our spending on experiments and clinical studies may vary substantially from quarter to quarter. We also expend funds to secure clinical samples that can be used in discovery, product development, clinical validation, utility and outcome studies. The timing of these research and development activities is difficult to predict. If a substantial number of clinical samples are obtained in a given quarter or if a high-cost experiment is conducted in one quarter versus the next, the timing of these expenses will affect our financial results. We conduct clinical studies to validate our new testing products, as well as ongoing clinical and outcome studies to further expand the published evidence to support our commercialized AVISE® testing products. Spending on research and development for both experiments and studies may vary significantly by quarter depending on the timing of these various expenses.
- ***How We Recognize Revenue***. We record revenue on an accrual basis based on our estimate of the amount that will be ultimately realized for each test upon delivery based on a historical analysis of amounts collected by test and by payor. Changes to such estimates may increase or decrease revenue recognized in future periods.

While each of these areas present significant opportunities for us, they also pose significant risks and challenges that we must address. We discuss many of these risks, uncertainties and other factors in the section entitled "*Risk Factors*."

**Janssen Promotion Agreement**

In December 2018, we entered into the Janssen Agreement, under which we are responsible for the costs associated with our sales force in promoting SIMPONI® in the United States. In August 2021, the Company and Janssen mutually agreed to terminate the Janssen Agreement effective on August 31, 2021. Pursuant to the Janssen Agreement, Janssen was responsible for all other costs associated with our promotion of SIMPONI® under the Janssen Agreement. In exchange for our sales and co-promotional services, we were entitled to a quarterly tiered promotion fee based on the incremental increase in total prescribed units of SIMPONI® for that quarter over a predetermined baseline. For the quarter ended June 30, 2020, the tiered promotion fee ranged from $750 to $1,250 per prescription over a predetermined baseline. Due in part to COVID-19, in June 2020 we amended the Janssen Agreement, to adjust the predetermined average baseline for the third and fourth quarters of 2020. In December 2020, we further amended the Janssen Agreement, to adjust the average baseline for total prescribed units of SIMPONI® for the quarters ending December 31, 2020 and March 31, 2021, subject to further adjustment under certain circumstances. In June 2021, the Janssen Agreement was again amended to proportionally increase the baseline for prescribed units for the quarter ending June 30, 2021 to reflect the addition of certain geographies to the sales territories covered by the Janssen Agreement. For the first and second quarters of 2021, we are entitled to an amended quarterly tiered promotion fee ranging from $500 to $1,000 per prescription based on the incremental increase in total prescribed units of SIMPONI® for that quarter over the predetermined baseline, and we are entitled to receive a minimum promotion fee of $0.3 million and the fee will be capped at 10% above the adjusted predetermined baseline. In connection with the Janssen Agreement's termination, we are entitled to receive an aggregate of $0.6 million in consideration. During the remainder of the term of the Janssen Agreement and the 9 month period immediately following its termination on August 31, 2021, we will be restricted from promoting any other biologic or Janus kinase inhibitor used for treatment of indications covered by the Janssen Agreement without first obtaining Janssen's written consent.

We recognized approximately $0.6 million and $2.1 million in revenue for the six months ended June 30, 2021 and 2020, respectively, for our promotional efforts under the Janssen Agreement.

**Seasonality**

Based on our experience to date, we expect some seasonal variations in our financial results due to a variety of factors, such as the year-end holiday period and other major holidays, vacation patterns of both patients and healthcare providers, including medical conferences, climate and weather conditions in our markets, seasonal conditions that may affect medical practices and provider activity, including for example influenza outbreaks that may reduce the percentage of patients that can be seen, and other factors relating to the timing of patient benefit changes, as well as patient deductibles and co-insurance limits.

**Financial Overview**

***Revenue***

To date, we have derived nearly all of our revenue from the sale of our testing products, most of which is attributable to our AVISE® CTD test. We primarily market our testing products to rheumatologists in the United States. The rheumatologists who order our testing products and to whom results are reported are generally not responsible for payment for these products. The parties that pay for these services, or payors, consist of healthcare insurers, government payors (primarily Medicare and Medicaid), client payors (e.g. hospitals, other laboratories, etc.), and patient self-pay. Our service is completed upon the delivery of test results to the prescribing rheumatologists which triggers billing for the service.

We recognize revenue in accordance with the provisions of ASC Topic 606, *Revenue from Contracts with Customers.* We record revenue on an accrual basis based on our estimate of the amount that will be ultimately realized for each test upon delivery based on a historical analysis of amounts collected by test and by payor. These assessments require significant judgment by management.

Our ability to increase our revenue will depend on our ability to further penetrate the market for our current and future testing products, and increase our reimbursement and collection rates for tests delivered.

As discussed above, our volume of AVISE® CTD tests delivered substantially recovered to pre-COVID-19 levels in the fourth quarter 2020. However, the continued spread of COVID-19, including any of its viral variants, may adversely affect testing volumes in future periods, and the extent of any such adverse effects is highly uncertain.

***Operating Expenses***

*Costs of Revenue*

Costs of revenue represents the expenses associated with obtaining and testing patient specimens. The components of our costs of revenue include materials costs, direct labor, equipment and infrastructure expenses associated with testing specimens, shipping charges to transport specimens, blood specimen collections fees, royalties, depreciation and allocated overhead, including rent and utilities.

Each payor, whether a commercial third-party, government, or individual, reimburses us at different amounts. These differences can be significant. As a result, our costs of revenue as a percentage of revenue may vary significantly from period to period due to the composition of payors for each period's billings.

Assuming future testing volumes are not negatively impacted by the continued spread of COVID-19, we expect that our costs of revenue will increase in absolute dollars as the number of tests we perform increases. However, we expect that the cost per test will decrease over time due to volume discounts on materials and shipping costs and other volume efficiencies we may gain as the number of tests we perform increases. As discussed above, the continued spread of COVID-19 may adversely affect testing volumes which may result in an increase in cost per test due to our inability to realize volume efficiencies.

*Selling, General and Administrative Expenses*

Selling, general and administrative expenses consist of personnel costs, including stock-based compensation expense, direct marketing expenses, accounting and legal expenses, consulting costs, and allocated overhead including rent, information technology, depreciation and utilities.

We expect that our selling, general and administrative expenses will increase in absolute dollars in 2021 as compared to 2020, as we continue to evaluate the reach and frequency of our sales and sales support functions, expected additions to headcount and increases for personnel costs, including stock-based compensation.

*Research and Development Expenses*

Research and development expenses include costs incurred to develop our technology, testing products and product candidates, collect clinical specimens and conduct clinical studies to develop and support our testing products and product candidates. These costs consist of personnel costs, including stock-based compensation expense, materials, laboratory supplies, consulting costs, costs associated with setting up and conducting clinical studies and allocated overhead including rent and utilities. We expense all research and development costs in the periods in which they are incurred.

We expect that our research and development expenses will increase in absolute dollars in 2021 as compared to 2020, as we continue to invest in research and development activities related to our existing testing products and product candidates, including the expansion of our clinical research and development facility, expected additions to headcount and increases for personnel costs, including stock-based compensation.

***Interest Expense***

Interest expense consists of cash and non-cash interest expense associated with our financing arrangements, including the borrowings under our amended loan and security agreement with Innovatus Life Sciences Lending Fund I, LP, or Innovatus.

We expect interest expense to remain consistent in 2021 as compared to 2020, and remain consistent thereafter until 2023.

***Other (Expense) Income, Net***

Other income, net, consists primarily of interest income earned on our cash and cash equivalents and amount received under the CARES Act Provider Relief Fund in the second quarter of 2020.

***Income Tax Benefit***

Income taxes include federal and state income taxes in the United States.

**Results of Operations**

***Comparison of the Three Months Ended June 30, 2021 and 2020:***

| | Three Months Ended June 30, | | |
|---|---|---|---|
| | 2021 | 2020 | Change |
| | (unaudited, in thousands) | | |
| Revenue | $ 12,772 | $ 8,948 | $ 3,824 |
| Operating expenses: | | | |
| Costs of revenue | 5,451 | 3,338 | 2,113 |
| Selling, general and administrative expenses | 11,171 | 8,276 | 2,895 |
| Research and development expenses | 1,892 | 751 | 1,141 |
| Total operating expenses | 18,514 | 12,365 | 6,149 |
| Loss from operations | (5,742) | (3,417) | (2,325) |
| Interest expense | (663) | (635) | (28) |
| Other (expense) income, net | (5) | 689 | (694) |
| Net loss | $ (6,410) | $ (3,363) | $ (3,047) |

***Revenue***

Revenue increased $3.8 million, or 42.7%, for the three months ended June 30, 2021 compared to the three months ended June 30, 2020, primarily due to an increase in the number of diagnostic tests delivered resulting in part from volume reductions experienced in late March 2020 as a result of the COVID-19 pandemic. The number of AVISE® CTD tests delivered, which accounted for 81% and 60% of revenue in the three months ended June 30, 2021 and 2020, respectively, increased to 33,328 tests delivered in the three months ended June 30, 2021 compared to 18,522 tests delivered in the same 2020 period. The adoption of the AVISE® CTD test by rheumatologists for the three months ended June 30, 2021 increased to 1,934 ordering healthcare providers as compared to 1,442 ordering healthcare providers in the same 2020 period. The increase in revenue was partially offset by a decrease in revenue from the co-promotion of SIMPONI® during the three months ended June 30, 2021 to approximately $0.3 million compared to approximately $2.1 million during the three months ended June 30, 2020.

***Costs of Revenue***

Costs of revenue increased $2.1 million, or 63.3%, for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. This increase was primarily due to increased direct costs such as materials and supplies, labor and shipping and handling associated with the increase in test volume in 2021 compared to 2020.

***Selling, General and Administrative Expenses***

Selling, general and administrative expenses increased $2.9 million, or 35.0%, for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. This increase was primarily due to an increase of $2.2 million of employee related expenses, including stock-based compensation and recruitment expenses, and increases related to audit and professional services of $0.2 million, insurance expenses of $0.3 million, marketing expenses of $0.1 million and facilities expenses of $0.1 million.

***Research and Development Expenses***

Research and development expenses increased $1.1 million for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. This increase was primarily due to increases related to license fees of $0.4 million, clinical trial expenses of $0.4 million, employee related expenses, including stock-based compensation, of $0.2 million and laboratory supplies expense of $0.1 million.

***Interest Expense***

Interest expense remained substantially consistent for the three months ended June 30, 2021 compared to the three months ended June 30, 2020.

***Other (Expense) Income, Net***

Other (expense) income, net, decreased $0.7 million for the three months ended June 30, 2021 compared to the three months ended June 30, 2020. The decrease was primarily driven by the $0.7 million we received under the CARES Act Provider Relief Fund due to lost revenues attributable to COVID-19 in the second quarter of 2020.

***Comparison of the Six Months Ended June 30, 2021 and 2020:***

| | Six Months Ended June 30, | | |
|---|---|---|---|
| | 2021 | 2020 | Change |
| | (unaudited, in thousands) | | |
| Revenue | $ 23,359 | $ 18,532 | $ 4,827 |
| Operating expenses: | | | |
| Costs of revenue | 10,162 | 7,883 | 2,279 |
| Selling, general and administrative expenses | 21,211 | 17,902 | 3,309 |
| Research and development expenses | 3,295 | 1,385 | 1,910 |
| Total operating expenses | 34,668 | 27,170 | 7,498 |
| Loss from operations | (11,309) | (8,638) | (2,671) |
| Interest expense | (1,308) | (1,266) | (42) |
| Other (expense) income, net | (2) | 860 | (862) |
| Loss before income taxes | (12,619) | (9,044) | (3,575) |
| Income tax benefit | — | 118 | (118) |
| Net loss | $ (12,619) | $ (8,926) | $ (3,693) |

***Revenue***

Revenue increased $4.8 million, or 26.0%, for the six months ended June 30, 2021 compared to the six months ended June 30, 2020, primarily due to an increase in the number of diagnostic tests delivered resulting in part from volume reductions experienced in late March 2020 as a result of the COVID-19 pandemic. The number of AVISE® CTD tests delivered, which accounted for 81% and 72% of revenue in the six months ended June 30, 2021 and 2020, respectively, increased to 62,357 tests delivered in the six months ended June 30, 2021 compared to 45,648 tests delivered in the same 2020 period. The adoption of the AVISE® CTD test by rheumatologists for the six months ended June 30, 2021 increased to 2,236 ordering healthcare providers as compared to 1,950 ordering healthcare providers in the same 2020 period. The increase in revenue was partially offset by a decrease in revenue from the co-promotion of SIMPONI® during the six months ended June 30, 2021 to approximately $0.6 million compared to approximately $2.1 million during the six months ended June 30, 2020.

***Costs of Revenue***

Costs of revenue increased $2.3 million, or 28.9%, for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. This increase was primarily due to increased direct costs such as materials and supplies, labor and shipping and handling associated with the increase in test volume in 2021 compared to 2020, partially offset by decreased royalty costs.

***Selling, General and Administrative Expenses***

Selling, general and administrative expenses increased $3.3 million, or 18.5%, for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. This increase was primarily due to an increase of $2.6 million of employee related expenses, including stock-based compensation and recruitment expenses, and increases related to insurance expenses of $0.3 million, audit and professional services of $0.1 million and facilities expenses of $0.2 million. The first quarter of 2020 included one-time restructuring charges of approximately $0.2 million.

***Research and Development Expenses***

Research and development expenses increased $1.9 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. This increase was primarily due to increases related to clinical trial expenses of $0.7 million, employee related expenses, including stock-based compensation and recruitment expenses, of $0.5 million, license fees of $0.4 million and laboratory supplies expense of $0.2 million.

***Interest Expense***

Interest expense remained substantially consistent for the six months ended June 30, 2021 compared to the six months ended June 30, 2020.

***Other (Expense) Income, Net***

Other (expense) income, net, decreased $0.9 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020. The decrease was primarily driven by the $0.7 million we received under the CARES Act Provider Relief Fund due to lost revenues attributable to COVID-19 in the second quarter of 2020 and lower money market interest rates in 2021 compared to 2020.

***Income Tax Benefit***

Income tax benefit decreased $0.1 million for the six months ended June 30, 2021 compared to the six months ended June 30, 2020 due to a change in tax law under the CARES Act enacted in 2020 that resulted in an income tax benefit during the six months ended June 30, 2020.

**Liquidity and Capital Resources**

We have incurred net losses since our inception. For the six months ended June 30, 2021 and 2020, we incurred a net loss of $12.6 million and $8.9 million, respectively, and we expect to incur additional losses and increased operating expenses in future periods. As of June 30, 2021, we had an accumulated deficit of $193.9 million. To date, we have generated only limited revenue, and we may never achieve revenue sufficient to offset our expenses.

Through the date of our IPO in September 2019, our operations were financed primarily from sales of our common stock and redeemable convertible preferred stock and borrowings under various debt financings. In September 2019, we completed our IPO and received net proceeds of approximately $50.4 million, net of underwriting discounts, commissions and other offering expenses, for aggregate expenses of approximately $7.5 million. On November 10, 2020, we filed a registration statement on Form S-3, or the Shelf Registration Statement, covering the offering, from time to time, of up to $150.0 million of common stock, preferred stock, debt securities, warrants and units, which Shelf Registration Statement became effective on November 19, 2020. In March 2021, we completed a public offering of 4,255,000 shares of our common stock at a public offering price of $16.25 per share, which shares were sold under the Shelf Registration Statement. Net proceeds from the offering were approximately $64.7 million, net of underwriting discounts and commissions and other offering expenses of $4.4 million. As of June 30, 2021, we had $112.6 million of cash and cash equivalents. Cash in excess of immediate requirements is invested in accordance with our investment policy, primarily with a view to liquidity and capital preservation. Currently, our funds are held in cash and money market funds.

In September 2017, we entered into the loan and security agreement with Innovatus under which we immediately drew down $20.0 million. In December 2018, we borrowed an additional $5.0 million under the loan agreement. In November 2019, we amended the loan and security agreement with Innovatus, which we collectively refer to as the Amended Loan Agreement. Pursuant to the Amended Loan Agreement, the loan term is for five years with a final maturity date of November 2024. The Amended Loan Agreement accrues interest at an annual rate of 8.5%, of

which 2.0%, during the first 36 months, will be treated as paid in-kind interest. Paid in-kind interest is added to the principal balance each period. After the initial 36 months of the loan, the entire 8.5% will be paid in cash at the end of each period. On or after the first anniversary of the Loan Amendment, but before the second anniversary of the Loan Amendment, we may, at our option, prepay the term loan borrowings by paying the lender a prepayment premium. Prepayment before the second anniversary of the Loan Amendment may only occur for specified reasons in the Amended Loan Agreement. The prepayment premium decreases by 1% at each of the second anniversary and the third anniversary of the Loan Amendment.

Our obligations under the Amended Loan Agreement are secured by a security interest in substantially all of our assets, including our intellectual property. The Amended Loan Agreement contains customary conditions to borrowing, events of default, and covenants, including covenants requiring us to maintain certain levels of minimum liquidity of $2.0 million, performance covenants to achieve certain minimum amounts of revenue, and covenants limiting our ability to dispose of assets, undergo a change in control, merge with or acquire other entities, incur debt, incur liens, pay dividends or other distributions to holders of our capital stock, repurchase stock and make investments, in each case subject to certain exceptions. The consequences of failing to achieve the performance covenant will be cured if, within sixty days of failing to achieve the performance covenant, we issue additional equity securities or subordinated debt with net proceeds sufficient to fund any cash flow deficiency generated from operations, as defined in the Amended Loan Agreement. At June 30, 2021, we were in compliance with all covenants of the Amended Loan Agreement. In addition, upon the occurrence of an event of default, Innovatus, among other things, can declare all indebtedness due and payable immediately, which would adversely impact our liquidity and reduce the availability of our cash flows to fund working capital needs, capital expenditures and other general corporate purposes.

In connection with the execution of the loan and security agreement with Innovatus in November 2017, we issued the lender a seven-year warrant to purchase 15,384,615 shares of our Series F redeemable convertible preferred stock at an exercise price of $0.078 per share, and in December 2018, in connection with the additional $5.0 million borrowed under the loan and security agreement, we issued to the lender a seven-year warrant to purchase 3,846,154 shares of our Series F redeemable convertible preferred stock at an exercise price of $0.078 per share. In connection with the completion of our IPO in September 2019, the warrants were automatically converted into warrants exercisable for an aggregate of 104,722 shares of common stock at an exercise price of $14.32 per share.

In April 2020, we received $0.7 million of funding under the CARES Act Provider Relief Fund, subject to our agreement to comply with the Department of Health & Human Services', or HHS, standard terms and conditions. The CARES Act Provider Relief Fund is a federal fund allocated for general distributions to Medicare facilities and providers impacted by the COVID-19 pandemic and is intended to support healthcare-related expenses or lost revenue attributable to COVID-19.

**Funding Requirements**

Our primary uses of cash are to fund our operations as we continue to grow our business. We expect to continue to incur operating losses in the near term as our operating expenses will be increased to support the growth of our business. We expect that our costs of revenue, selling, general and administrative expenses, and research and development expenses will continue to increase as we increase our test volume, expand our marketing efforts and increase our internal sales force to drive increased adoption of and reimbursement for our AVISE® testing products, prepare to commercialize new testing products, continue our research and development efforts and further develop our product pipeline. We believe we have sufficient laboratory capacity to support increased test volume. We expect to make significant investments for laboratory equipment and capital expenditures in the near term related to our laboratory facilities and expansion of research capabilities, including an investment to convert approximately 8,000 square feet of warehouse space into additional clinical laboratory space and approximately 6,000 square feet of warehouse space into additional research and development facility space. We expect to begin such conversion in the second half of 2021 and complete such conversion in the third quarter of 2022. The expansion of our clinical laboratory and research development facility are expected to allow us to enhance our testing capacity and improve efficiencies as well as allow us to develop molecular and multiomic capabilities and advance our product pipeline, including support of development of tests for fibromyalgia, RA, thrombosis and lupus nephritis. Cash used to fund operating expenses is impacted by the timing of when we pay expenses, as reflected in the change in our outstanding accounts payable and accrued expenses.

We expect that our near- and longer-term liquidity requirements will continue to consist of working capital and general corporate expenses associated with the growth of our business, including payments we may be required to

make upon the achievement of previously negotiated milestones associated with intellectual property we have licensed, payments related to non-cancelable purchase obligations with one supplier for reagents, payments related to our principal and interest under our long term borrowing arrangements, payments for operating leases related to our office and laboratory space in Vista, California and payments for capital leases related to our laboratory equipment. Based on our current business plan, we believe that our existing cash and cash equivalents and our anticipated future revenue, will be sufficient to meet our anticipated cash requirements for at least the next 12 months from the date of this filing.

Our estimate of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including:

- the impact of the COVID-19 pandemic on our business, including challenges resulting from social distancing and stay-at home orders through a reduction in testing volumes;
- our ability to maintain and grow sales of our AVISE® testing products, as well as the costs associated with conducting clinical studies to demonstrate the utility of our products and support reimbursement efforts;
- our ability to achieve sufficient market acceptance, coverage and adequate reimbursement from third-party payors and adequate market share and revenue for our testing products;
- fluctuations in working capital;
- the costs of developing our product pipeline, including the costs associated with conducting our ongoing and future validation, utility and outcome studies as well as the success of our development efforts;
- the additional costs we may incur as a result of operating as a public company;
- the extent to which we establish additional partnerships or in-license, acquire or invest in complementary businesses or products as well as the success of our existing partnerships and/or in-licenses; and
- the costs associated with our promotion of other therapeutics, including the expansion of our sales capabilities, and the extent and timing of generating revenue from each such promotion.

Until such time, if ever, as we can generate revenue to support our costs structure, we expect to finance our operations through equity offerings, debt financings or other capital sources, including potentially collaborations, licenses and other similar arrangements. 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. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders may be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. If additional funding is required or desired, there can be no assurance that additional funds will be available to us on acceptable terms on a timely basis, if at all, or that we will generate sufficient cash from operations to adequately fund our operating needs or achieve or sustain profitability. If we are unable to raise additional capital or generate sufficient cash from operations to adequately fund our operations, we will need to delay, reduce or eliminate some or all of our research and development programs, product portfolio expansion plans or commercialization efforts. Doing so will likely have an unfavorable effect on our ability to execute on our business plan and could have a negative impact on our relationships with parties such as our commercial and strategic relationships. If we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, financial condition, and results of operations could be adversely affected.

**Cash Flows**

The following table summarizes our cash flows for the periods indicated:

| | Six Months Ended June 30, | |
|---|---|---|
| | 2021 | 2020 |
| **(in thousands)** | (unaudited) | |
| Net cash provided by (used in): | | |
| Operating activities | $ (8,762) | $ (8,057) |
| Investing activities | (881) | (237) |
| Financing activities | 64,771 | (90) |
| Net change in cash, cash equivalents and restricted cash | $ 55,128 | $ (8,384) |

**Cash Flows from Operating Activities**

Net cash used in operating activities for the six months ended June 30, 2021 was $8.8 million and primarily resulted from (i) our net loss of $12.6 million adjusted for non-cash charges of $3.0 million related to stock-based compensation, depreciation, amortization and non-cash interest and (ii) changes in our net operating assets of $0.8 million primarily related to net decreases in prepaid expenses and other current assets.

Net cash used in operating activities for the six months ended June 30, 2020 was $8.1 million and primarily resulted from (i) our net loss of $8.9 million adjusted for non-cash charges of $1.6 million related to depreciation, amortization, stock-based compensation, non-cash interest and deferred income taxes and (ii) changes in our net operating assets of $0.7 million primarily related to net increases in accounts receivables.

**Cash Flows from Investing Activities**

Net cash used in investing activities for the six months ended June 30, 2021 and 2020 was $0.9 million and $0.2 million, respectively, and was due to net purchases of property and equipment.

**Cash Flows from Financing Activities**

Net cash provided in financing activities for the six months ended June 30, 2021 was $64.8 million primarily resulting from the net proceeds received from our public offering in March 2021 of $64.7 million and proceeds from ESPP purchases, partially offset by principal payments on capital lease obligations.

Net cash used in financing activities for the six months ended June 30, 2020 was $0.1 million and primarily resulted from principal payments on capital lease obligations, as well as proceeds from our unsecured loan pursuant to the U.S. Small Business Administration Paycheck Protection Program of the CARES Act, which we subsequently repaid in May 2020.

**Critical Accounting Policies and Significant Management Estimates**

Our management’s discussion and analysis of our financial condition and results of operations is based on our condensed financial statements, which have been prepared in accordance with United States generally accepted accounting principles, or U.S. GAAP. The year-end condensed balance sheet data was derived from audited financial statements, but does not include all disclosures required by U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions, and any such differences may be material.

For a description of our critical accounting policies, please see the section entitled "*Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Policies and Significant Management Estimates*" contained in our Annual Report on Form 10-K for the year ended December 31, 2020, as amended. There have been no significant changes in our critical accounting policies and estimates during the three months ended June 30, 2021 as compared to the critical accounting policies and estimates disclosed in the Management’s Discussion and Analysis of Financial Condition and Operations included in our Annual Report on Form 10-K for the year ended December 31, 2020, as amended, other than as set forth in Note 2 to the unaudited condensed financial statements included in this Quarterly Report on Form 10-Q.

**Recent Accounting Pronouncements**

Please see Note 2 to the unaudited condensed financial statements included in this Quarterly Report on Form 10-Q for a summary of changes in significant accounting policies.

**Off-Balance Sheet Arrangements**

During the periods presented we did not have, nor do we currently have any off-balance sheet arrangements, as defined under the rules and regulations of the Securities and Exchange Commission, or the SEC.

**JOBS Act Accounting Election**

The Jumpstart Our Business Startups Act of 2012, or the JOBS Act, contains provisions that, among other things, reduce certain reporting requirements for an "emerging growth company." The JOBS Act permits an "emerging growth company" such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to use this extended transition period under the JOBS Act until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our audited financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

We will remain an emerging growth company until the last day of our fiscal year following the fifth anniversary of the date of the first sale of our common equity securities pursuant to an effective registration statement under the Securities Act of 1933, as amended, or the Securities Act, which such fifth anniversary will occur in 2024. However, if certain events occur prior to the end of such five-year period, including if we become a "large accelerated filer" as defined in Rule 12b-2 under the Exchange Act, our annual gross revenues exceed $1.07 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we may cease to be an emerging growth company prior to the end of such five-year period.

## Item 3. Quantitative and Qualitative Disclosures about Market Risk

Not applicable.

## Item 4. Controls and Procedures

***Evaluation of Disclosure Controls and Procedures***

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in the reports that we file with or submit to the SEC 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 or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable and not absolute assurance of achieving the desired control objectives. In reaching a reasonable level of assurance, management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. In addition, the design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, control may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Our management, with the participation of our principal executive officer and our principal financial officer, evaluated, as of the end of the period covered by this quarterly report, the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Based on that evaluation, our principal executive officer and principal financial officer have concluded that as of June 30, 2021, our disclosure controls and procedures were effective at the reasonable assurance level. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgement in evaluating the cost-benefit relationship of possible controls and procedures.

***Changes in Internal Control Over Financial Reporting***

There have been no changes in our internal control over financial reporting during the three months ended June 30, 2021 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

We are currently not a party to any material legal proceedings. From time to time, we may be involved in legal proceedings or subject to claims incident to the ordinary course of business. Regardless of the outcome, such proceedings or claims can have an adverse impact on us because of defense and settlement costs, diversion of resources and other factors, and there can be no assurances that favorable outcomes will be obtained.

## Item 1A. Risk Factors

There have been no material changes to the risk factors disclosed in Part I, Item 1A, "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2020, as amended, other than changes to the risk factors set forth below:

### Risks Related to Our Business and Strategy

***Our business is subject to risks arising from epidemic diseases, such as the continuing global pandemic of the COVID-19 coronavirus.***

The current COVID-19 worldwide pandemic has presented substantial public health challenges and is affecting our employees, patients, physicians and other healthcare providers, communities and business operations, as well as the U.S. and global economies and financial markets. International and U.S. governmental authorities in impacted regions have taken actions in an effort to slow the spread of COVID-19, including issuing varying forms of "stay-at-home" orders, restricting business functions outside of one's home, restricting gatherings, restricting travel, and mandating social distancing and face coverings. Certain jurisdictions have begun a phased re-opening, although the potential to return to prior restrictions remains if there are increases (or, in some jurisdictions, continued increases) in new cases of COVID-19 or any of its viral variants in the future. The duration of any restrictions may also vary depending on the ultimate success of ongoing vaccination efforts. Even in areas where "stay-at-home" restrictions, masking and social distancing measures have been lifted and the number of COVID-19 cases have declined, some jurisdictions are considering re-imposing these measures as variant strains emerge. Many individuals remain cautious about resuming activities such as preventative-care medical visits. A pandemic, including COVID-19 or other public health epidemic, poses the risk that we or our employees, contractors, suppliers, third-party shipping carriers, government and third-party payors and other members of our supply chain may be prevented from conducting business activities for an indefinite period of time, including due to spread of the disease within these groups or due to shutdowns that may be requested or mandated by governmental authorities. As a result of COVID-19 related limitations and reordering of priorities across the U.S. healthcare system, a reduction in patient flow occurred and our test volumes began to decrease in the second half of March 2020 and we experienced an AVISE® CTD volume decrease of approximately 5% in the year ended December 31, 2020 as compared to 2019. In the fourth quarter 2020, our volume of AVISE® CTD tests delivered substantially recovered to pre-COVID-19 levels. For the three months ended June 30, 2021 as compared to the same period in 2020, we experienced an AVISE® CTD volume increase of approximately 80%. For the six months ended June 30, 2021 as compared to the same period in 2020, we experienced a AVISE® CTD test volume increase of approximately 37%. However, the continued spread of COVID-19 may adversely affect testing volumes in future periods, the extent of which is highly uncertain. Healthcare providers and patients have canceled or delayed scheduling, and for an extended period of time may continue to cancel or delay scheduling, standard wellness visits and other non-emergency appointments and procedures, contributing to a decline in orders of our testing products. The economic downturn may also result in closures of the practices of our primary customers.

In addition, we believe there are several other important factors that have impacted, and that we expect will impact our operating performance and results of operations, including shutdowns of our facilities and operations as well as those of our suppliers and courier services, disruptions to the supply chain of material needed for our tests, our sales and commercialization activities and our ability to receive specimens and perform or deliver the results from our tests, delays in reimbursement and coverage decisions from Medicare and third-party payors and in interactions with regulatory authorities, as well as our inability to achieve or re-negotiate volume-based discounts with our key suppliers and to absorb fixed laboratory expenses. For example, we have experienced delays in patient enrollment for ongoing and planned clinical studies involving our tests, which may delay or prevent launch of future test products. Our sales force has been, and for an extended period of time may continue to be limited to their in-person interactions with healthcare providers, and therefore, also limited their ability to engage in various types of healthcare provider education activities. The portion of our workforce which has been working remotely in an effort to reduce the spread of COVID-19, may be infected from the virus or otherwise impaired. We have also experienced delays in procurement of our testing supplies due to suppliers rationing testing supplies and prioritizing COVID-19 testing beginning in the first quarter of 2021, which may continue into the future, and our partners, may also experience a disruption in their ability to readily obtain supply. We may also face increased competition for laboratory employees due to the increased demand in the industry for such personnel. We may inaccurately estimate the duration or severity of the COVID-19 pandemic, which could cause us to misalign our staffing, spending, activities and precautionary measures with market current or future market conditions.

Our laboratory operations, including laboratory employees and medical directors, may be subject to closure or shut down, either due to the spread of the disease within these individuals, or as part of a larger scale government recommendation or mandate. Disruptions in our laboratory operations could have a material adverse effect on our business and could impede our ability to process tests in a timely manner, or at all.

The occurrence of any of the foregoing events could have a material adverse effect on our business, financial condition and results of operations. The COVID-19 pandemic and mitigation measures have had and may continue to have an adverse impact on global economic conditions which could have an adverse effect on our business and financial condition, including impairing our ability to raise capital on a timely basis or at all. The extent to which the COVID-19 pandemic impacts our results will depend on future developments that are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of the virus and the actions to contain its impact. COVID-19 may also have the effect of heightening many of the other risks described in this section and in the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2020, as amended.

***Developing new testing products involves a lengthy and complex process, and we may not be able to commercialize on a timely basis, or at all, other testing products we are developing.***

We will continue to devote considerable resources to the research and development of our planned future testing products and enhancements to our current testing products. We may not be able to develop testing products with the clinical utility necessary to be useful and commercially successful. There are certain products for which a commercial launch would trigger additional payment obligations to licensors of the technology. In these cases, if the economic projections of the product do not outweigh the additional obligations, we may not launch these products. In order to develop and commercialize testing products, we need to:

- expend significant funds to conduct substantial research and development;
- conduct successful validation studies;
- develop and scale our laboratory processes to accommodate different tests;
- achieve and maintain required regulatory certifications, including the hiring of appropriately licensed laboratory personnel;
- develop and scale our infrastructure to be able to analyze increasingly large amounts of data; and
- build the commercial infrastructure to market and sell new testing products.

Our testing product development process involves a high degree of risk and may take several years. Our testing product development efforts may fail for many reasons, including:

- failure to identify additional biomarkers to incorporate into our testing products;
- failure or sub-optimal performance of the testing product at the research or development stage;
- obtaining patient consent inclusive of genetic analysis;
- difficulty in accessing archival patient blood specimens, especially specimens with known clinical results; or
- failure of clinical validation, utility and outcome studies to support the effectiveness of the test.

Typically, few research and development projects result in commercial products, and success in early clinical studies often is not replicated in later studies. At any point, we may abandon development of a testing product candidate or we may be required to expend considerable resources repeating clinical studies, which would adversely affect the timing for generating potential revenue from a new testing product and our ability to invest in other products in our pipeline.

In the second half of 2021, we expect to begin the conversion of approximately 8,000 square feet of warehouse space into additional clinical laboratory space and approximately 6,000 square feet of warehouse space into additional research and development facility space in order to develop molecular and multiomic capabilities. We have not yet developed any molecular or multiomic testing products nor do we have experience developing and integrating molecular biomarkers into new or existing testing products, and we may never be successful doing so in the future. As a result, there is considerable risk that the expansion of our clinical laboratory and research and development facility may not lead to the development of additional testing products that generate meaningful revenue. Further, as we begin to expand our clinical laboratory and research and development facility in order to develop molecular and multiomic capabilities, we expect to need to make significant investments in key personnel and highly trained scientists with relevant experience to handle the increased operations and development of molecular biomarkers.

In addition, as we develop testing products, we will have to make significant investments in product development, marketing and selling resources. If a clinical validation study fails to demonstrate the prospectively defined

endpoints of the study, we might choose to abandon the development of the testing product or product feature that was the subject of the clinical study, which could harm our business. Additionally, competitors may develop and commercialize competing products or technologies faster than us or at a lower cost.

Developing new testing products and enhancements to our existing technologies is expensive and time consuming, and there is no assurance that such activities will result in significant new marketable testing products, enhancements to our current technologies, design improvements, cost savings, revenue or other expected benefits. If we spend significant resources on research and development and are unable to generate an adequate return on our investment or divert resources away from other, more attractive growth opportunities, our business and results of operations may be materially and adversely affected.

***Our future growth depends, in part, on our ability to execute on our strategy of integrating the promotion of our existing and future proprietary testing products with the promotion of therapeutics through third party collaborations and strategic partnerships, and we may be unsuccessful in our efforts to establish relationships with these third parties or our promotion efforts after any of these relationships are established, which could adversely affect our ability to implement this strategy.***

We intend to integrate our historical testing products business with the promotion of therapeutics in an integrated testing and therapeutics strategy. Our integrated testing and therapeutics strategy would leverage our sales and marketing efforts, targeting rheumatologists for the commercialization of our testing products in co-promotion with therapeutics. As a result, our future growth is dependent, in part, on the success of this strategy. The Janssen Agreement will be terminated effective as of August 31, 2021. While we remain committed to the strategy of providing an integrated testing and therapeutics model, we may be unsuccessful in our efforts to establish relationships with collaborators in the future. Even if we successfully establish these relationships, our ability to effectively implement this strategy will include creating demand for the applicable therapeutic through our or our collaborator's commercial and sales activities. Moreover, we may encounter difficulties in maintaining an effective salesforce in furtherance of these co-promotion efforts. We have a limited history partnering with pharmaceutical companies for the promotion of therapeutics. Consequently, any predictions made about our future success or viability with respect to our promotion activities may not be as accurate as they could be if we had a history of successfully co-promoting therapeutics.

If we fail to successfully establish and maintain relationships with these collaborators and strategic partners, our ability to implement our integrated testing and therapeutics strategy and generate sufficient revenue to grow and sustain our business, and our business, financial condition and results of operations, will be materially adversely affected.

## Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

### Use of Proceeds

On September 18, 2019, the SEC declared effective our registration statement on Form S-1 (File No. 333-233446), as amended, filed in connection with our IPO. At the closing of the offering on September 23, 2019, we issued and sold 4,140,000 shares of our common stock at the initial public offering price to the public of $14.00 per share, which included the exercise in full of the underwriters' option to purchase additional shares. We received gross proceeds from the IPO of $58.0 million, before deducting underwriting discounts, commissions and other offering expenses, which resulted in net proceeds of approximately $50.4 million and offering-related transaction costs of approximately $7.5 million. Cowen and Company, LLC, Cantor Fitzgerald & Co and William Blair & Company, L.L.C. acted as joint book-running managers for the offering. No offering expenses were paid or are payable, directly or indirectly, to our directors or officers, to persons owning 10% or more of any class of our equity securities or to any of our affiliates.

As of June 30, 2021, we have used approximately $26.4 million of the proceeds from our IPO primarily related to selling and marketing activities. There has been no material change in the planned use of such proceeds from that described in the final prospectus filed by us with the SEC on September 20, 2019.

### Recent Sales of Unregistered Securities

On June 22, 2021, we entered into an exchange agreement, or the Exchange Agreement, with an Investor and its affiliates, or the Exchanging Stockholders, pursuant to which we exchanged an aggregate 804,951 shares of our common stock owned by the Exchanging Stockholders for pre-funded warrants, or the Exchange Warrants, to

purchase an aggregate of 804,951 shares of Common Stock (subject to adjustment in the event of stock splits, recapitalizations and other similar events affecting common stock), with an exercise price of $0.001 per share. The Exchange Warrants are exercisable at any time, except that the Exchange Warrants will not be exercised by the Exchanging Stockholders if, upon giving effect thereto, the Exchanging Stockholders would beneficially own more than 4.99% of the total number of issued and outstanding Common Stock, which percentage may change at the Exchanging Stockholders' election to any other number upon 61 days' notice to us. The Exchange Warrants were issued in reliance on Section 3(a)(9) of the Securities Act.

**Issuer Purchases of Equity Securities**

| Period | Total Number of Shares Purchased | Average Price Paid Per Share | Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs | Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs |
|---|---|---|---|---|
| June 1 - 30, 2021 | 804,951 | (1) | Not applicable. | Not applicable. |

(1) The Exchange Warrants.

## Item 3. Defaults Upon Senior Securities

Not applicable.

## Item 4. Mine Safety Disclosures

Not applicable.

## Item 5. Other Information

None.

## Item 6. Exhibits

| Exhibit Number | Exhibit Description | Incorporated by Reference | | | | Filed/Furnished Herewith |
|---|---|---|---|---|---|---|
| | | Form | File No. | Exhibit | Exhibit Filing Date | |
| 3.1 | Amended and Restated Certificate of Incorporation. | 8-K | 001-39049 | 3.1 | 9/23/2019 | |
| 3.2 | Amended and Restated Bylaws. | 8-K | 001-39049 | 3.1 | 3/22/2021 | |
| 4.1 | Specimen stock certificate evidencing the shares of common stock. | S-1/A | 333-233446 | 4.1 | 9/9/2019 | |
| 4.2 | Amended and Restated Investors' Rights Agreement, dated July 12, 2019, by and among the Registrant and certain of its stockholders. | S-1/A | 333-233446 | 4.2 | 9/9/2019 | |
| 4.3 | Amended and Restated Stockholders' Agreement, dated July 12, 2019, by and among the Registrant and certain of its stockholders. | S-1/A | 333-233446 | 4.3 | 9/9/2019 | |
| 4.4 | Form of Common Stock Purchase Warrant issued to investors by the Registrant in connection with private placement financings. | S-1/A | 333-233446 | 4.4 | 9/9/2019 | |
| 4.5 | Form of Exchange Warrant | | | | | X |
| 10.1† | Amendment #4 to Co-Promotion Agreement, dated June 30, 2021 | | | | | X |
| 31.1 | Certificate of Principal Executive Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. | | | | | X |
| 31.2 | Certificate of Principal Financial Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. | | | | | X |
| 32.1* | Certifications Pursuant to U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Public Company Accounting Reform and Investor Protection Act of 2002. | | | | | X |
| 101.INS | Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document. | | | | | X |
| 101.SCH | Inline XBRL Taxonomy Extension Schema Document. | | | | | X |
| 101.CAL | Inline XBRL Taxonomy Extension Calculation Linkbase Document. | | | | | X |
| 101.DEF | Inline XBRL Taxonomy Extension Definition Linkbase Document. | | | | | X |
| 101.LAB | Inline XBRL Taxonomy Extension Labels Linkbase Document. | | | | | X |
| 101.PRE | Inline XBRL Taxonomy Extension Presentation Linkbase Document. | | | | | X |
| 104 | The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021, has been formatted in Inline XBRL. | | | | | X |

***** This certification is deemed not filed for purpose of section 18 of the Exchange Act or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.

† Confidential portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K.

**Signatures**

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

EXAGEN INC.

Date: August 9, 2021 by: /s/ Fortunato Ron Rocca
Fortunato Ron Rocca
President and Chief Executive Officer
(Principal Executive Officer)

Date: August 9, 2021 by: /s/ Kamal Adawi
Kamal Adawi
Chief Financial Officer
(Principal Financial and Accounting Officer)

**PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK**
**EXAGEN INC.**

Warrant Shares: Initial Exercise Date: _____, 2021
Issue Date: _____, 2021

THIS PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK (the "Warrant") certifies that, for value received, _____ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after _____, 2021 (the "Initial Exercise Date") and on or prior to the close of business on the date that this Warrant has been exercised in full (the "Termination Date") to subscribe for and purchase from Exagen Inc., a Delaware corporation (the "Company"), up to _____ shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Warrant, the following terms have the meanings indicated in this Section 1:

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

"Commission" means the United States Securities and Exchange Commission.

"Common Stock" means the common stock of the Company, par value $0.001 per share.

"Common Stock Equivalents" means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Exchange Agreement (the "Exchange Agreement"), dated _____, 2021, among the Company and the Holders signatory thereto.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy (or e-mail attachment) of the Notice of Exercise in the form annexed hereto (the "Notice of Exercise"). Within two (2) Trading Days following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial

exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Trading Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of $0.001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and, consequently, no additional consideration (other than the nominal exercise price of $0.001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-paid aggregate Exercise Price under any circumstance or for any reason whatsoever, including in the event this Warrant shall not have been exercised prior to the Termination Date. The remaining unpaid exercise price per share of Common Stock under this Warrant shall be $0.001, subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. This Warrant may also be exercised, in whole or in part, at any time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

(A) = as applicable: (i) the volume weighted average price ("VWAP") on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(68) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the bid price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that, in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. Warrant Shares purchased through cashless exercise hereunder shall be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is three (3) Trading Days after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares; provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within two (2) Trading Days of delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), $10 per Trading Day (increasing to $20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. In addition, without limiting any rights of a Holder to receive Warrant Shares on a "cashless exercise" pursuant to Section 2(c) or to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, in no event shall the Company be required to net cash settle an exercise of this Warrant.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2)

the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of $11,000 to cover a BuyIn with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of $10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder $1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for sameday processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this

Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately before and after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant, provided that the Holder shall be permitted to decrease the Beneficial Ownership Limitation upon providing written notice to the Company or increase the Beneficial Ownership Limitation upon providing the Company with at least 61 days' prior written notice.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the number of Warrant Shares issuable upon exercise of this Warrant shall be multiplied by a fraction of which the denominator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the numerator shall be the number of shares of Common Stock outstanding immediately after such event; the Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation). To the extent that this Warrant has not been partially or completely exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger, or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other

Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

f) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common

Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party (except in the case of a merger for purposes of changing the Company's domicile), any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

a) Transferability. Subject to compliance with any applicable securities laws, this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on

transfers or exchanges shall be dated the Initial Exercise Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then, such action may be taken or such right may be exercised on the next succeeding Trading Day.

d) Authorized Shares. The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any

public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Exchange Agreement.

f) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

g) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Exchange Agreement.

h) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

i) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

j) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

k) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

l) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

m) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

**********

*(Signature Page Follows)*

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

**EXAGEN INC.**

By: _____

Name:

Title:

**EXHIBIT A**

**NOTICE OF EXERCISE**

TO: EXAGEN INC.

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

[ ] in lawful money of the United States; or

[ ] the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c) of the Warrant, to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c) of the Warrant.

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

_____

The Warrant Shares shall be delivered to the following DWAC Account Number:

_____
_____
_____

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____
Signature of Authorized Signatory of Investing Entity: _____
Name of Authorized Signatory: _____
Title of Authorized Signatory: _____
Date: _____

**EXHIBIT B**

**ASSIGNMENT FORM**

*(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)*

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone Number: _____

Email Address: _____

Dated: _____ __, _____

Holder's Signature:_____

Holder's Address:_____

**Exhibit 10.1**

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE EXAGEN INC. HAS DETERMINED THE INFORMATION (I) IS NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO EXAGEN INC. IF PUBLICLY DISCLOSED.

**AMENDMENT #4 TO CO-PROMOTION AGREEMENT**

As contemplated in the Co-Promotion Agreement between Exagen and Janssen signed December 10, 2018, please find attached the final Baseline TRxU for April through June (3th Quarter) of 2021, which has been agreed upon by the Janssen and Exagen Teams. This Baseline TRxU include CVS/Anthem data for the zip codes covered by Exagen sale representatives as of April 1, 2021, inclusive of the additional zip codes added.

The parties have agreed that the following sections of the Agreement are hereby amended as follows effective as the date of this notice:

2.3.4. The terms of the Promotion Fee shall be adjusted for the quarter ending June 30, 2021 as follows:

2.3.4.1 The Promotion Fee shall be based on a unit value for each quarter over Baseline TRxU, allocated as follows:

| For the Quantities | Promotion Fee per unit |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

**Tiered Baseline**

[***]

A minimum payout of $300,000 for Q1 and Q2 of 2021 will be in effect.

2.3.4.2 Unit quantities below Baseline TRxU in a quarter will be counted as zero for purposes of calculating Quantities for Promotion Fee per unit.

2.3.4.3 Janssen will pay Exagen a Minimum Promotion Fee of $300,000 for each of the quarters ending March 31, 2021 and June 30, 2021

2.3.4.4 In addition, the Promotion Fee will be capped at an amount reflecting the payment due in the event that Exagen's TRxU exceeds 10% above the Baseline TRxU for the quarter ending June 30, 2021.

For example:

[***]

2.3.5 For the remaining quarters of the Contract Term Extension (July 1, 2021 – December 31, 2021) and any additional Third Term, the Promotion Fee payment terms shall revert to the terms set forth in the Co-Promotion Agreement, with no Minimum Promotion Fee and no Cap (Section 2.3.3).

*** Certain Confidential Information Omitted

In accordance with Amendment #2 dated June 18th, 2020 to the Agreement, please find the Second Term Baseline TRxU for the First Half of 2021:

| **Quarter ending** | **Baseline TRxU** |
|---|---|
| March 31, 2021 | [***] |
| June 30, 2021 | [***] |

Please indicate your acceptance by signing the space provided below and returning to Janssen.

**JANSSEN BIOTECH, INC.**
By: /s/ Howard Reid
Name: Howard Reid
Title: Director of Marketing
Date: Jul 27, 2021

Accepted and agreed
As of the date set forth above:
By: /s/ Mark Hazeltine
Name: Mark Hazeltine
Title: COO
Date: Jul 9, 2021

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*** Certain Confidential Information Omitted

**Exhibit 31.1**

**EXAGEN INC.**

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER**

**PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Fortunato Ron Rocca, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Exagen 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 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.

5. The registrant's other certifying officer 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 9, 2021

/s/ Fortunato Ron Rocca

Fortunato Ron Rocca

President and Chief Executive Officer

(Principal Executive Officer)

**Exhibit 31.2**

**EXAGEN INC.**

**CERTIFICATION OF CHIEF FINANCIAL OFFICER**

**PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Kamal Adawi, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Exagen 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 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.

5. The registrant's other certifying officer 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 9, 2021

/s/ Kamal Adawi
Kamal Adawi
Chief Financial Officer
(Principal Financial and Accounting Officer)

**Exhibit 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, the undersigned officer of Exagen Inc. (the "Company") hereby certifies, to such officer's knowledge, that:

1. The accompanying quarterly report on Form 10-Q of the Company for the quarterly period ended June 30, 2021 (the "Report") fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Dated: August 9, 2021

/s/ Fortunato Ron Rocca
Fortunato Ron Rocca
President and Chief Executive Officer
(Principal Executive Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION OF CHIEF FINANCIAL OFFICER**

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Exagen Inc. (the "Company") hereby certifies, to such officer's knowledge, that:

1. The accompanying quarterly report on Form 10-Q of the Company for the quarterly period ended June 30, 2021 (the "Report") fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Dated: August 9, 2021

/s/ Kamal Adawi

Kamal Adawi

Chief Financial Officer (Principal Financial and Accounting Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.