

**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 September 30, 2022

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 001-39482

**sema4**

**Sema4 Holdings Corp.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of  
incorporation or organization)

**333 Ludlow Street, North Tower, 8th Floor  
Stamford, Connecticut**

(Address of Principal Executive Offices)

**85-1966622**

(I.R.S. Employer  
Identification No.)

**06902**

(Zip Code)

**(800) 298-6470**

Registrant's telephone number, including area code

(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
<b>Class A common stock, par value \$0.0001 per share</b>	<b>SMFR</b>	<b>The Nasdaq Global Select Market</b>
<b>Warrants to purchase one share of Class A common stock, each at an exercise price of \$11.50 per share</b>	<b>SMFRW</b>	<b>The Nasdaq Global Select Market</b>

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

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

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 Exchange Act. (Check one):

Large accelerated filer	<input type="radio"/>	Accelerated filer	<input type="radio"/>
Non-accelerated filer	<input checked="" type="radio"/>	Smaller reporting company	<input checked="" type="radio"/>
		Emerging growth company	<input checked="" type="radio"/>

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

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

The registrant had outstanding 386,795,130 shares of Class A common stock as of November 4, 2022.

---

---

---

## Table of Contents

	<b>Page</b>
<a href="#">Explanatory Note</a>	4
<a href="#">Cautionary Note Regarding Forward Looking Statements</a>	5
 <a href="#">Part I. Financial Information</a>	
<a href="#">Item 1.</a> <a href="#">Unaudited Condensed Consolidated Financial Statements</a>	6
<a href="#">Condensed Consolidated Balance Sheets</a>	7
<a href="#">Condensed Consolidated Statements of Operations and Comprehensive Loss</a>	8
<a href="#">Condensed Consolidated Statement of Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)</a>	9
<a href="#">Condensed Consolidated Statements of Cash Flows</a>	11
<a href="#">Notes to Unaudited Condensed Consolidated Financial Statements</a>	13
<a href="#">Item 2.</a> <a href="#">Management's Discussion and Analysis of Financial Condition and Results of Operations</a>	42
<a href="#">Item 3.</a> <a href="#">Quantitative and Qualitative Disclosures About Market Risk</a>	60
<a href="#">Item 4.</a> <a href="#">Controls and Procedures</a>	60
 <a href="#">Part II. Other Information</a>	
<a href="#">Item 1.</a> <a href="#">Legal Proceedings</a>	62
<a href="#">Item 1A.</a> <a href="#">Risk Factors</a>	62
<a href="#">Item 2.</a> <a href="#">Unregistered Sales of Equity Securities and Use of Proceeds</a>	109
<a href="#">Item 3.</a> <a href="#">Defaults Upon Senior Securities</a>	109
<a href="#">Item 4.</a> <a href="#">Mine Safety Disclosures</a>	109
<a href="#">Item 5.</a> <a href="#">Other Information</a>	109
<a href="#">Item 6.</a> <a href="#">Exhibits</a>	109
 <a href="#">Signatures</a>	111

---

## EXPLANATORY NOTE

Unless otherwise stated in this report or the context otherwise requires, references to:

- the “Company,” “Sema4” and “we,” “us” and “our” refer to (i) Mount Sinai Genomics, Inc. d/b/a as Sema4, or Legacy Sema4, prior to the consummation of our business combination with CM Life Sciences, Inc., or CMLS, on July 22, 2021 and (ii) Sema4 Holdings Corp. and its consolidated subsidiaries following the consummation of our business combination.
- “GeneDx” refer to GeneDx, LLC, a Delaware limited liability company (formerly, GeneDx, Inc., a New Jersey corporation), which we acquired on April 29, 2022.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain matters discussed in this report, including matters discussed under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” may constitute forward-looking statements for purposes of the Securities Act of 1933, as amended, or the Securities Act, and the Securities Exchange Act of 1934, as amended, or the Exchange Act, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from the future results, performance or achievements expressed or implied by such forward-looking statements. The words “anticipate,” “believe,” “estimate,” “may,” “expect” and similar expressions are generally intended to identify forward-looking statements. Our actual results may differ materially from the results anticipated in these forward-looking statements due to a variety of factors, including, without limitation, those discussed under the captions “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this report, as well as other factors which may be identified from time to time in our other filings with the Securities and Exchange Commission, or the SEC, or in the documents where such forward-looking statements appear. All written or oral forward-looking statements attributable to us are expressly qualified in their entirety by these cautionary statements. Such forward-looking statements include, but are not limited to, statements about:

- our estimates of the sufficiency of our existing capital resources combined with future anticipated cash flows to finance our operating requirements;
- our expected losses;
- our expectations for incurring capital expenditures;
- unforeseen circumstances or other disruptions to normal business operations, including supply chain interruptions and manufacturing constraints, arising from or related to the ongoing COVID-19 pandemic;
- our ability to realize the benefits expected from our April 2022 acquisition of GeneDx;
- our expectations regarding our plans to pursue a new strategic direction, exit our reproductive and women’s health testing business and our ability to scale to profitability, as well as our plans to exit our somatic tumor testing business and the associated cost savings and impact on our gross margins;
- our expectations for generating revenue or becoming profitable on a sustained basis;
- our expectations or ability to enter into service, collaboration and other partnership agreements;
- our expectations or ability to build our own commercial infrastructure to scale market and sell our products;
- actions or authorizations by the U.S. Food and Drug Administration, or the FDA, or other regulatory authorities;
- risks related to governmental regulation and other legal obligations, including privacy, data protection, information security, consumer protection, and anti-corruption and anti-bribery;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- our ability to compete against existing and emerging technologies;
- our stock price and its volatility;
- our ability to attract and retain key personnel;
- third-party payor reimbursement and coverage decisions, negotiations and settlements;
- our reliance on third-party laboratories and service providers for our test volume in connection with our diagnostic solutions and data programs;
- our ability to satisfy Nasdaq listing rules;
- our expectations for future capital requirements;
- our accounting estimates and judgments, including our expectations regarding our ability to continue as a going concern, the adequacy of our reserves for third party payor claims, our estimates of the fair value of the milestone payments related to the GeneDx acquisition and our conclusions regarding the appropriateness of the carrying value of intangible assets and goodwill; and
- our ability to successfully implement our business strategy.

The forward-looking statements contained in this report reflect our views and assumptions only as of the date that this report is signed. Except as required by law, we assume no responsibility for updating any forward-looking statements.

We qualify all of our forward-looking statements by these cautionary statements. In addition, with respect to all of our forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

**Sema4 Holdings Corp.**  
**Condensed Consolidated Balance Sheets**  
**(in thousands, except share amounts)**

**Part I - Financial Information**

**Item 1. Unaudited Condensed Consolidated Financial Statements**

**Sema4 Holdings Corp.**  
**Condensed Consolidated Balance Sheets**  
(in thousands, except share amounts)

	September 30, 2022 (unaudited)	December 31, 2021
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 191,360	\$ 400,569
Accounts receivable, net	42,669	26,509
Due from related parties	1,194	54
Inventory, net	44,173	33,456
Prepaid expenses	17,516	19,154
Other current assets	9,698	3,802
Total current assets	\$ 306,610	\$ 483,544
Operating lease right-of-use assets	44,033	—
Property and equipment, net	84,369	62,719
Intangible assets, net	190,156	—
Goodwill	181,468	—
Restricted cash	14,370	900
Other assets	7,968	6,930
Total assets	\$ 828,974	\$ 554,093
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities:		
Accounts payable and accrued expenses	\$ 86,884	\$ 64,801
Due to related parties	1,828	2,623
Contract liabilities	—	473
Short-term lease liabilities	4,996	—
Other current liabilities	68,623	33,387
Total current liabilities	\$ 162,331	\$ 101,284
Long-term debt, net of current portion	10,651	11,000
Long-term lease liabilities	62,336	—
Other liabilities	20,200	21,907
Deferred taxes	2,603	—
Warrant liability	5,059	21,555
Earn-out contingent liabilities	4,500	10,244
Total liabilities	\$ 267,680	\$ 165,990
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred Stock, \$0.0001 par value: 1,000,000 and 0 shares authorized at September 30, 2022 and December 31, 2021, respectively; 0 shares issued and outstanding at September 30, 2022 and December 31, 2021, respectively	\$ —	\$ —
Class A common stock, \$0.0001 par value: 1,000,000,000 and 380,000,000 shares authorized at September 30, 2022 and December 31, 2021, respectively; 381,428,905 and 242,647,604 shares issued and outstanding at September 30, 2022 and December 31, 2021, respectively	38	24
Additional paid-in capital	1,376,916	963,520
Accumulated deficit	(815,660)	(575,441)
Total stockholders' equity	\$ 561,294	\$ 388,103
Total liabilities and stockholders' equity	\$ 828,974	\$ 554,093

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

**Sema4 Holdings Corp.**  
**Condensed Consolidated Statements of Operations and Comprehensive Loss**  
**(in thousands, except share and per share amounts)**  
**(unaudited)**

	Three months ended September 30,		Nine months ended September 30,	
	2022	2021 (1)	2022	2021 (1)
Revenue:				
Diagnostic test revenue (including related party revenue of \$809 and \$20 for the three months ended and \$1,392 and \$90 for the nine months ended September 30, 2022 and 2021, respectively)	\$ 81,490	\$ 41,410	\$ 167,989	\$ 148,973
Other revenue (including related party revenue of \$149 and \$65 for the three months and \$296 and \$153 for the nine months ended September 30, 2022 and 2021, respectively)	1,744	1,768	5,355	5,421
Total revenue	83,234	43,178	173,344	154,394
Cost of services (including related party expenses of \$1,103 and \$656 for the three months ended and \$3,507 and \$1,942 for the nine months ended September 30, 2022 and 2021, respectively)	69,685	51,487	183,768	168,190
Gross profit (loss)	13,549	(8,309)	(10,424)	(13,796)
Research and development	13,354	17,831	61,837	82,916
Selling and marketing	37,451	28,152	103,116	82,092
General and administrative	51,863	33,125	162,681	148,033
Related party expenses	1,697	847	4,712	3,532
Loss from operations	(90,816)	(88,264)	(342,770)	(330,369)
Other income (expense), net:				
Change in fair market value of warrant and earn-out contingent liabilities	12,978	122,171	54,350	122,171
Interest income	996	27	1,405	57
Interest expense	(806)	(683)	(2,404)	(2,128)
Other income	2	(520)	58	5,064
Total other income	13,170	120,995	53,409	125,164
(Loss) Income before income taxes	\$ (77,646)	\$ 32,731	\$ (289,361)	(205,205)
Income tax benefit	65	—	49,142	—
Net (loss) income and comprehensive (loss) income	\$ (77,581)	\$ 32,731	\$ (240,219)	(205,205)
Weighted average shares outstanding of Class A common stock	380,764,176	185,680,394	321,461,266	63,121,738
Weighted average shares outstanding of Class A common stock for diluted earnings	380,764,176	210,330,946	321,461,266	63,121,738
Basic net (loss) income per share, Class A common stock	\$ (0.20)	\$ 0.18	\$ (0.75)	(3.25)
Diluted net (loss) income per share, Class A common stock	\$ (0.20)	\$ 0.16	\$ (0.75)	(3.25)

(1) As previously disclosed in Note 2, “Summary of Significant Accounting Policies” to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2021, certain adjustments were made to reclassify certain expenses between cost of services and operating expenses. The adjustments are reflected as disclosed.

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.



**Sema4 Holdings Corp.**  
**Condensed Consolidated Statement of Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)**  
(in thousands, except share amounts)  
(unaudited)

**Three months ended September 30, 2022**

	Preferred Stock		Class A Common Stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity
	Shares	Par value	Shares	Par value			
<b>Balances at June 30, 2022</b>	—	\$ —	379,896,799	\$ 38	\$ 1,375,315	\$ (738,079)	\$ 637,274
Net loss	—	—	—	—	—	(77,581)	(77,581)
Stock option exercises	—	—	615,309	—	329	—	329
Stock based compensation expense	—	—	—	—	1,272	—	1,272
Vested restricted stock units converted to common stock	—	—	916,797	—	—	—	—
<b>Balances at September 30, 2022</b>	—	\$ —	381,428,905	\$ 38	\$ 1,376,916	\$ (815,660)	\$ 561,294

**Nine months ended September 30, 2022**

	Preferred Stock		Class A Common Stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity
	Shares	Par value	Shares	Par value			
<b>Balances at December 31, 2021</b>	—	\$ —	242,647,604	\$ 24	\$ 963,520	\$ (575,441)	\$ 388,103
Net loss	—	—	—	—	—	(240,219)	(240,219)
Stock option exercises	—	—	6,940,485	1	2,198	—	2,199
Stock based compensation expense	—	—	—	—	41,552	—	41,552
Shares issued for PIPE, net of issuance costs	—	—	50,000,000	5	197,654	—	197,659
Shares issued for acquisition (1)	—	—	80,000,000	8	171,992	—	172,000
Vested restricted stock units converted to common stock	—	—	1,840,816	—	—	—	—
<b>Balances at September 30, 2022</b>	—	\$ —	381,428,905	\$ 38	\$ 1,376,916	\$ (815,660)	\$ 561,294

(1) Of the 80 million shares issued for acquisition, 8.3 million shares are held by the escrow agent for one year escrow period. During this period, the seller retains all rights with respect to the escrow shares, including voting rights and rights to receive dividends and other distributions on such escrow shares.

**Sema4 Holdings Corp.**  
**Condensed Consolidated Statement of Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)**  
(in thousands, except share amounts)  
(unaudited)

**Three months ended September 30, 2021 (1)**

	Redeemable Convertible Preferred Stock		Class A Common Stock		Class B Common Stock		Additional paid-in capital	Accumulated deficit (1)	Total stockholders' deficit
	Shares	Amount	Shares	Par value	Shares	Par Value			
<b>Balances at June 30, 2021</b>	<b>171,535,213</b>	<b>\$ 334,439</b>	<b>4,458</b>	<b>\$ —</b>	<b>1,383,736</b>	<b>\$ —</b>	<b>\$ 1,483</b>	<b>\$ (567,987)</b>	<b>\$ (566,504)</b>
Net income	—	—	—	—	—	—	—	32,731	32,731
Conversion of Preferred Stock	(171,535,213)	(334,439)	148,543,062	15	—	—	104,517	—	104,532
Conversion of Class B Common Stock	—	—	1,309,320	—	(1,383,736)	—	(744)	—	(744)
Net equity infusion from the Business Combination	—	—	90,333,562	9	—	—	510,742	—	510,751
Stock based compensation modification reclassification	—	—	—	—	—	—	304,837	—	304,837
Stock based compensation expense	—	—	—	—	—	—	5,418	—	5,418
<b>Balances at September 30, 2021</b>	<b>—</b>	<b>\$ —</b>	<b>240,190,402</b>	<b>\$ 24</b>	<b>—</b>	<b>\$ —</b>	<b>\$ 926,253</b>	<b>\$ (535,256)</b>	<b>\$ 391,021</b>

**Nine months ended September 30, 2021 (1)**

	Redeemable Convertible Preferred Stock		Class A Common Stock		Class B Common Stock		Additional paid-in capital	Accumulated deficit (1)	Total stockholders' deficit
	Shares	Amount	Shares	Par value	Shares	Par Value			
<b>Balances at December 31, 2020</b>	<b>171,535,213</b>	<b>\$ 334,439</b>	<b>124</b>	<b>\$ —</b>	<b>130,557</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ (330,051)</b>	<b>\$ (330,051)</b>
Net loss	—	—	—	—	—	—	—	(205,205)	(205,205)
Stock options exercises	—	—	4,334	—	1,253,179	—	1,483	—	1,483
Conversion of Preferred Stock	(171,535,213)	(334,439)	148,543,062	15	—	—	104,517	—	104,532
Conversion of Class B Common Stock	—	—	1,309,320	—	(1,383,736)	—	(744)	—	(744)
Net equity infusion from the Business Combination	—	—	90,333,562	9	—	—	510,742	—	510,751
Stock based compensation modification reclassification	—	—	—	—	—	—	304,837	—	304,837
Stock based compensation expense	—	—	—	—	—	—	5,418	—	5,418
<b>Balances at September 30, 2021</b>	<b>—</b>	<b>\$ —</b>	<b>240,190,402</b>	<b>\$ 24</b>	<b>—</b>	<b>\$ —</b>	<b>\$ 926,253</b>	<b>\$ (535,256)</b>	<b>\$ 391,021</b>

(1) As previously disclosed in Note 2, "Summary of Significant Accounting Policies" to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2021, certain adjustments were made which impacted previously reported net loss for the third quarter of 2021 and the adjusted net loss is reflected as disclosed.

**Sema4 Holdings Corp.**  
**Condensed Consolidated Statements of Cash Flows**  
(in thousands)  
(unaudited)

	Nine months ended September 30,	
	2022	2021 (1)
<b>Operating activities</b>		
Net loss	\$ (240,219)	\$ (205,205)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	25,269	16,012
Stock-based compensation expense	41,553	182,454
Change in fair value of warrant and earn-out contingent liabilities	(54,350)	(122,171)
Income tax benefit	(49,176)	—
Loss on debt extinguishment	—	301
Provision for excess and obsolete inventory	732	1,122
Non-cash lease expense	1,112	1,174
Amortization of deferred debt issuance costs	387	—
Change in operating assets and liabilities, net of effects from purchase of business:		
Accounts receivable	5,491	10,787
Inventory	(5,239)	(7,334)
Prepaid expenses and other current assets	5,153	(15,710)
Due to/from related parties	(1,935)	(124)
Other assets	(1,355)	(17)
Accounts payable and accrued expenses	28,557	4,927
Contract liabilities	(473)	(1,290)
Other current liabilities	(10,008)	(3,375)
Net cash used in operating activities	(254,501)	(138,449)
<b>Investing activities</b>		
Purchase of business, net of cash acquired	(127,004)	—
Purchases of property and equipment	(4,990)	(4,344)
Development of internal-use software assets	(6,494)	(8,749)
Net cash used in investing activities	(138,488)	(13,093)
<b>Financing activities</b>		
Proceeds from Business Combination PIPE Investment	—	350,000
Proceeds from Acquisition PIPE Investment, net of issuance costs	197,659	—
Proceeds from equity infusion from the merger, net of redemptions	—	442,684
Legacy Sema4 Shareholder payout	—	(230,665)
Payment of deferred transaction costs	—	(51,760)
Stock Appreciation Rights payout	—	(3,795)
Repayment of long-term debt	—	(8,741)
Finance lease principal payments	(2,632)	(2,960)
Long-term debt principal payments	—	(1,000)
Exercise of stock options	2,223	995
Net cash provided by financing activities	197,250	494,758
Net decrease in cash, cash equivalents and restricted cash	(195,739)	343,216
Cash, cash equivalents and restricted cash, at beginning of period	401,469	118,960
Cash, cash equivalents and restricted cash, at end of period	\$ 205,730	\$ 462,176

**Sema4 Holdings Corp.**  
**Condensed Consolidated Statements of Cash Flows**  
**(in thousands)**  
**(unaudited)**

**Supplemental disclosures of cash flow information**

Cash paid for interest	\$	1,795	\$	2,128
Cash paid for taxes	\$	487	\$	50
Stock consideration paid for purchase of business	\$	172,000	\$	—
Purchases of property and equipment in accounts payable and accrued expenses	\$	1,546	\$	193
Software development costs in accounts payable and accrued expenses	\$	448	\$	1,228

(1) As previously disclosed in Note 2, “Summary of Significant Accounting Policies” to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2021, certain adjustments were made to certain liability accounts previously reported in the condensed balance sheets as of September 30, 2021. The adjustments are reflected accordingly as disclosed.

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements****1. Organization and Description of Business**

Sema4 Holdings Corp. (“Sema4 Holdings”) through its subsidiaries Sema4 OpCo, Inc., formerly Mount Sinai Genomics Inc., a Delaware corporation (“Legacy Sema4”) and GeneDx Holding 2, LLC, provides genomics-related diagnostic and information services and pursues genomics medical research. Sema4 utilizes an integrated portfolio of laboratory processes, software tools and informatics capabilities to process DNA-containing samples, analyze information about patient-specific genetic variation and generate test reports for clinicians and their patients. Sema4 provides a variety of genetic diagnostic tests, and screening solutions, and information with a focus on pediatrics, hereditary cancer screening, and rare diseases for children and adults. Sema4 Holdings’ operating subsidiaries primarily serve healthcare professionals who work with their patients and bills third-party payors across the United States, with a substantial portion of its diagnostic testing volume occurring in New York, California, Florida, Connecticut and Illinois.

On July 22, 2021 (the “Closing Date”), CM Life Sciences, Inc. (“CMLS”) completed the acquisition of Legacy Sema4, pursuant to that certain Agreement and Plan of Merger (as amended, the “Business Combination Merger Agreement”), dated February 9, 2021. On the Closing Date, S-IV Sub, Inc. merged with and into the Legacy Sema4, with Legacy Sema4 surviving the merger as a wholly-owned subsidiary of CMLS (the “Business Combination Merger” and, together with the other transactions contemplated by the Business Combination Merger Agreement, the “Business Combination”). In connection with the consummation of the Business Combination, CMLS changed its name to “Sema4 Holdings Corp.” and Legacy Sema4 changed its name to “Sema4 OpCo, Inc.” All equity securities of Legacy Sema4 were converted into the right to receive the applicable portion of the merger consideration.

The Business Combination Merger was accounted for as a reverse recapitalization with Legacy Sema4 as the accounting acquirer and CMLS as the acquired company for accounting purposes. The shares and net loss per common share, prior to the Business Combination Merger, have been retroactively restated as shares reflecting the exchange ratio established in the Business Combination Merger (1 share of Legacy Sema4 Class A common stock for 123.8339 shares of Sema4 Holdings Class A common stock (the “Class A common stock”) (the “Conversion Ratio”).

Prior to the Business Combination Merger, shares of CMLS Class A common stock, CMLS’s public warrants, and CMLS’s public units were traded on the Nasdaq Capital Market under the ticker symbols “CMLF”, “CMFLW”, and “CMLFU” respectively. On July 23, 2021, shares of Sema4 Holdings Class A common stock and Sema4 Holdings’ public warrants began trading on the Nasdaq Global Select Market (the “Nasdaq”) under the ticker symbols “SMFR” and “SMFRW,” respectively.

In addition, on April 29, 2022, the Company consummated the transactions contemplated by that certain Agreement and Plan of Merger, dated as of January 14, 2022 (as amended, the “Acquisition Merger Agreement”), by and among the Company and GeneDx, Inc. (“GeneDx”), a New Jersey corporation and wholly-owned subsidiary of OPKO Health, Inc. (“OPKO”), GeneDx Holding 2, Inc., which held 100% of GeneDx (“Holdco2”), at the Effective Time (as defined in the Acquisition Merger Agreement) and OPKO, which provided for, among other things, the acquisition of GeneDx from OPKO. After giving effect to the mergers and the other transactions contemplated by the Acquisition Merger Agreement (the “Acquisition”), GeneDx was converted into a Delaware limited liability company and became the Company’s wholly-owned indirect subsidiary.

See Note 3, “Business Combination,” for additional details regarding the Business Combination and Acquisition.

Unless otherwise stated herein or unless the context otherwise requires, references in these notes to the “Company,” or “Sema4” refer to (i) Legacy Sema4 prior to the consummation of the Business Combination; and (ii) Sema4 Holdings and its subsidiaries following the consummation of the Business Combination.

**2. Summary of Significant Accounting Policies*****Basis of Presentation***

The accompanying unaudited condensed consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information and pursuant to the accounting disclosure rules and regulations of the Securities and Exchange Commission (the “SEC”) regarding interim financial reporting. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. As such, the accompanying unaudited condensed consolidated financial

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

statements should be read in conjunction with the Company's audited financial statements and notes thereto as of and for the years ended December 31, 2021, 2020 and 2019 included in the Company's Annual Report on Form 10-K for the year ended December 31, 2021 filed on March 14, 2022 (the "Annual Report").

The accompanying unaudited condensed consolidated financial statements reflect all normal recurring adjustments that are necessary to state fairly the results for the interim periods presented. Interim results are not necessarily indicative of the results of operations or cash flows for a full year or any subsequent interim period.

The Company's historical financial information includes costs of certain services historically provided by Icahn School of Medicine at Mount Sinai ("ISMMS") pursuant to a Transition Services Agreement ("TSA") and service agreements. See Note 7, "Related Party Transactions".

As discussed in the Company's Annual Report, the Company identified the misclassification of certain expenses and out of period adjustments generally related to the recognition of cost of services. The impact of these adjustments were disclosed in the Company's Annual Report and are reflected in the condensed consolidated statements of operations and comprehensive loss, condensed consolidated statement of redeemable convertible preferred stock and stockholders' equity (deficit) and condensed consolidated statements of cash flows for the period ended September 30, 2021.

Although the Company has incurred recurring losses in each year since inception, the Company expects its cash and cash equivalents will be sufficient to fund operations for at least the next twelve months from the date of filing of this Form 10-Q.

***Segment Information***

The Company operates and manages its business as one reportable operating segment based on how the Chief Executive Officer, who is the Company's chief operating decision maker ("CODM"), assesses performance and allocates resources across the business.

***Use of Estimates***

The preparation of unaudited condensed consolidated financial statements in conformity with U.S. GAAP requires management to make certain estimates, judgments and assumptions that affect the reported amounts of assets and liabilities and the related disclosures at the date of the unaudited condensed consolidated financial statements as well as the reported amounts of revenues and expenses during the periods presented. The Company bases these estimates on current facts, historical and anticipated results, trends and various other assumptions that it believes are reasonable in the circumstances, including assumptions as to future events. These estimates include, but are not limited to, the transaction price for certain contracts with customers, potential or actual claims for recoupment from third-party payors, the capitalization of software costs, the valuation of stock-based awards, inventory, earn-out contingent liabilities and earn-out Restricted Stock Units ("RSUs"). Actual results could differ materially from those estimates, judgments and assumptions.

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

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable.

The Company's cash and cash equivalents are deposited with high-quality financial institutions. The Company has balances in financial institutions that exceed federal depository insurance limits. Management believes these financial institutions are financially sound and, accordingly, that minimal credit risk exists. The Company has not experienced any losses on its deposits of cash and cash equivalents.

The Company assesses both the self-pay patient and, if applicable, the third-party payor that reimburses the Company on the patient's behalf when evaluating the concentration of credit risk. Significant customers and payors are those that represent more than 10% of the Company's total revenues for the period or accounts receivable balance at each respective balance sheet date. The significant concentrations of accounts receivable as of September 30, 2022 and December 31, 2021 were primarily from large managed care insurance companies and a reference laboratory. There was no individual patient that accounted for 10% or more of the Company's revenue or accounts receivable for any of the periods presented. The Company does not require collateral as a means to mitigate customer credit risk.

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

For each significant payor, revenue as a percentage of total revenues and accounts receivable as a percentage of total accounts receivable are as follows:

	Revenue				Accounts Receivable	
	Three months ended September 30,		Nine months ended September 30,		As of September 30,	As of December 31,
	2022	2021	2022	2021	2022	2021
Payor A <sup>(1)</sup>	*	23%	*	19%	18%	15%
Payor B <sup>(2)</sup>	27%	20%	29%	19%	16%	15%
Payor C	*	15%	*	13%	*	*
Payor D	*	*	*	10%	*	*
Payor E	15%	*	12%	*	11%	*

\*less than 10%

(1) This payor represented less than 10% of the Company's total revenues in 2022 due to a reversal of revenue recorded for this payor primarily in the second quarter of 2022 due to this payor's allegation regarding certain overpayments the Company allegedly received from this payor. Refer to Note 4, "Revenue Recognition."

(2) This payor includes multiple individual plans and the Company calculates and presents the aggregated value from all plans, which is consistent with the Company's portfolio approach used in accounting for diagnostic test revenue.

The Company is subject to a concentration of risk from a limited number of suppliers for certain reagents and laboratory supplies. One supplier accounted for approximately 13% and 8% for the three months ended September 30, 2022 and 2021, respectively and 13% and 10% for the nine months ended September 30, 2022 and 2021, respectively. This risk is managed by maintaining a target quantity of surplus stock.

**Impact of COVID-19**

Beginning in April 2020, the Company's diagnostic test volumes decreased significantly as compared to the prior year as a result of the initial outbreak of the COVID-19 pandemic and the related limitations and priorities across the healthcare system. In response, beginning in May 2020, the Company entered into several service agreements with state governments and healthcare institutions to provide testing for the presence of COVID-19 variants. Test volumes have since improved to what would, at this time, be considered normalized market conditions. A COVID-19 resurgence in the United States could however have a material impact on the Company's results of operations, cash flows and financial condition.

In March 2020, the Coronavirus Aid, Relief and Economic Security Act ("CARES Act") was signed into law which was a stimulus bill that, among other things, provided assistance to qualifying businesses and individuals and included funding for the healthcare system. During 2020, as part of the stimulus provided by the CARES Act, the Company received \$5.4 million, comprised of \$2.6 million received under the Provider Relief Fund ("PRF") distribution and \$2.8 million received under the Employee Retention Credit ("ERC") distribution which was recorded in other current liabilities as of September 30, 2022 and December 31, 2021.

During the three months ended March 31, 2021, the Company received an additional \$5.6 million under the PRF distribution, which was recognized in other income in the condensed consolidated statements of operations and comprehensive loss.

Additionally, under the CARES Act, the Company deferred payment of U.S. social security taxes in 2020. As a result, \$3.8 million of employer payroll tax payments were initially deferred as of December 31, 2020 with \$1.9 million paid in December 2021 and the remaining \$1.9 million payment will be made in December 2022. As of September 30, 2022, the remaining payable is recorded in other current liabilities.

Following the Company's announcement that it would discontinue COVID-19 testing services by March 31, 2022, the Company no longer provides COVID-19 testing services. During the nine months ended September 30, 2022, the Company wrote off an accounts receivable balance of \$0.4 million related to COVID-19 testing services.

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements*****Cash, Cash Equivalents and Restricted Cash***

The Company considers all highly liquid investments with original maturities of three months or less from the date of purchase to be cash equivalents. Cash equivalents consist of amounts invested in money market funds. Carrying values of cash equivalents approximate fair value due to the short-term nature of these instruments.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported on the condensed consolidated balance sheets that sum to the total of the same amounts shown on the condensed consolidated statements of cash flows (in thousands):

	As of September 30, 2022	As of December 31, 2021
Cash and cash equivalents	\$ 191,360	\$ 400,569
Restricted cash	14,370	900
Total	<u>\$ 205,730</u>	<u>\$ 401,469</u>

Restricted cash as of September 30, 2022 includes \$13.5 million escrow fund as restricted cash related to the closing of the Acquisition of GeneDx. The escrow amount is to be held for a period of 12 months following the closing date of the Acquisition as a fund for OPKO's indemnification obligations pursuant to the Acquisition Merger Agreement. In addition, restricted cash as of September 30, 2022 consists of money market deposit accounts that secure an irrevocable standby letter of credit that serves as collateral for security deposit operating leases (see Note 9, "Leases").

***Accounts Receivable***

Accounts receivable consists of amounts due from customers and third party payors for services performed and reflect the consideration to which the Company expects to be entitled in exchange for providing those services. Accounts receivable are estimated and recorded in the period the related revenue is recorded. The accounts receivable balance as of September 30, 2022 included \$3.6 million of unbilled accounts receivables.

***Business Combinations***

The Company accounts for acquisitions of entities that include inputs and processes and have the ability to create outputs as business combinations. The tangible and identifiable intangible assets acquired and liabilities assumed in a business combination are recorded based on their estimated fair values as of the business combination date, including identifiable intangible assets which either arise from a contractual or legal right or are separable from goodwill. The Company bases the estimated fair value of identifiable intangible assets acquired in a business combination on third-party valuations that use information and assumptions provided by the Company's management, which consider estimates of inputs and assumptions that a market participant would use. Any excess purchase price over the estimated fair value assigned to the net tangible and identifiable intangible assets acquired and liabilities assumed is recorded to goodwill. The use of alternative valuation assumptions, including estimated revenue projections, growth rates, estimated cost savings, cash flows, discount rates, estimated useful lives and probabilities surrounding the achievement of contingent milestones could result in different purchase price allocations and amortization expense in current and future periods.

***Goodwill***

In accordance with ASC 350, Intangibles-Goodwill and Other ("ASC 350"), the Company's goodwill is not amortized but is tested for impairment on an annual basis or whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Under ASC 350, the Company will perform annual impairment reviews of goodwill during the fourth fiscal quarter or more frequently if business factors indicate. During the third quarter of 2022, the Company identified indicators of impairment that indicate that it is more likely than not that the fair value of the reporting unit is less than its carrying value. The factors contributing to the indicators include, but are not limited to, significant decline in the Company's stock price coupled with lower than anticipated business financial performance of Sema4. As a result, the Company performed quantitative analysis to determine the fair value of the company-wide single reporting unit, and based on this analysis, the Company concluded that an impairment loss is not required as of September 30, 2022. The fair value was determined to include the Company's estimates of discounted future cash flows expected to be generated as well as other contemporaneous assumptions related to the exit of the reproductive and women's health business.



**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements*****Intangible Assets***

Amortizable intangible assets include trade names and trademarks, developed technology and customer relationships acquired as part of business combinations. Intangible assets acquired through our business combinations in the second quarter of 2022 are amortized on a straight line basis. All intangible assets subject to amortization are reviewed for impairment in accordance with ASC 360, Property, Plant and Equipment. As discussed above regarding goodwill, the indicators of impairment were identified and the Company evaluated the recoverability of amortizable intangible assets and other long-lived assets for impairment. The recoverability test was performed on a company-wide single asset group level. As a result of the test performed, impairment loss was not required as of September 30, 2022.

***Warrant Liability***

As of the consummation of the Business Combination Merger in July 2021, there were 21,995,000 warrants to purchase shares of Class A common stock outstanding, including 14,758,333 public warrants and 7,236,667 private placement warrants. As of December 31, 2021, there were 21,994,972 warrants to purchase shares of Class A common stock outstanding, including 14,758,305 public warrants and 7,236,667 private placement warrants outstanding. Each warrant expires five years after the Business Combination or earlier upon redemption or liquidation, and entitles the holder to purchase one share of Class A common stock at an exercise price of \$11.50 per share, subject to adjustment, at any time commencing on September 4, 2021.

The Company may redeem the outstanding public warrants if the price per share of the Class A common stock equals or exceeds \$18.00 as described below:

- in whole and not in part;
- at a price of \$0.01 per public warrant;
- upon not less than 30 days' prior written notice of redemption to each warrant holder; and
- if, and only if, the closing price of the Class A common stock equals or exceeds \$18.00 per share (as adjusted) for any 20 trading days within a 30-trading day period ending three trading days before sending the notice of redemption to warrant holders.

The Company may redeem the outstanding public warrants if the price per share of the common stock equals or exceeds \$10.00 as described below:

- in whole and not in part;
- at \$0.10 per warrant upon a minimum of 30 days' prior written notice of redemption provided that holders will be able to exercise their warrants on a cashless basis prior to redemption and receive that number of shares based on the redemption date and the fair market value of the common stock;
- if, and only if, the closing price of the Class A common stock equals or exceeds \$10.00 per share (as adjusted) for any 20 trading days within the 30-trading day period ending three trading days before the Company sends the notice of redemption to the warrant holders; and
- if the closing price of the common stock for any 20 trading days within a 30-trading day period ending three trading days before the Company sends notice of redemption to the warrant holders is less than \$18.00 per share (as adjusted), the private placement warrants must also be concurrently called for redemption on the same terms as the outstanding public warrants, as described above.

The private placement warrants were issued to CMLS Holdings, LLC, Mr. Munib Islam, Dr. Emily Leproust and Mr. Nat Turner, and are identical to the public warrants underlying the units sold in the initial public offering, except that (1) the private placement warrants and the common stock issuable upon the exercise of the private placement warrants would not be transferable, assignable or salable until 30 days after the completion of a Business Combination, subject to certain limited exceptions, (2) the private placement warrants are exercisable on a cashless basis, (3) the private placement warrants are non-redeemable (except as described above, upon a redemption of warrants when the price per share of Class A common stock equals or exceeds \$10.00) so long as they are held by the initial purchasers or their permitted transferees,

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

and (4) the holders of the private placement warrants and the common stock issuable upon the exercise of the private placement warrants have certain registration rights. If the private placement warrants are held by someone other than the initial purchasers or their permitted transferees, the private placement warrants will be redeemable by the Company and exercisable by such holders on the same basis as the public warrants.

The Company accounts for warrants as liability-classified instruments based on an assessment of the warrant terms and applicable authoritative guidance in accordance with ASC 480-Distinguishing Liabilities from Equity ("ASC 480") and ASC 815-Derivatives and Hedging ("ASC 815"). The assessment considers whether the warrants are freestanding financial instruments pursuant to ASC 480, whether the warrants meet the definition of a liability pursuant to ASC 480, and whether the warrants meet all of the requirements for equity classification under ASC 815. This assessment is conducted at the time of warrant issuance and as of each subsequent quarterly period end date while the warrants are outstanding.

***Contingent consideration (GeneDx)***

In connection with the Acquisition of GeneDx, up to \$150 million of contingent payments will be payable to OPKO in cash and/or shares of Company's Class A common stock with such mix to be determined in the Company's sole discretion, based upon achievement of 2022 and 2023 revenue milestones, pursuant to the Acquisition Merger Agreement (the "Milestone Payments"). If the Company elects to pay in shares of Class A common stock, the Acquisition Merger Agreement provides that the shares issues are to be valued at \$4.86 per share for a maximum of 30.9 million shares.

Subject to the terms and conditions of the Acquisition Merger Agreement, (a) the first Milestone Payment of \$112.5 million will become due and payable if the revenue of the GeneDx group for the fiscal year 2022 equals or exceeds \$163 million and (b) the second Milestone Payment of \$37.5 million will become due and payable if the revenue of the GeneDx group for the fiscal year 2023 equals or exceeds \$219 million (each of clauses (a) and (b), a "Milestone Event"); provided that 80% of the Milestone Payment for the first milestone period or the second milestone period, as applicable, will become payable in respect of such period if the GeneDx group achieves 90% of the applicable Milestone Event revenue target for such period, which amount will scale on a linear basis up to 100% of the applicable Milestone Payment at 100% of the applicable revenue target. The milestone payments would require issuance of shares of Company's Class A common stock up to 23.2 million shares and 7.7 million shares for the first Milestone Payment and second Milestone Payment, respectively. The fair value of the Milestone Payment which was determined to be \$24.4 million as of September 30, 2022 is estimated using a Monte Carlo simulation valuation model and assuming the Company will pay the earn-out in shares.

***Earn-out contingent liability***

In connection with the Business Combination Merger, all Legacy Sema4 stockholders and option holders at that time became entitled to a pro rata share of 19,021,576 earn-out shares and earn-out RSUs. Based on an assessment of the earn-out shares for the Legacy Sema4 stockholders, the Company considered ASC 480 and ASC 815 and accounted for the earn-out shares as a liability. The Company subsequently measures the fair value of the liability at each reporting period and reports the changes in fair value recorded as a component of other income (expense), net in the condensed consolidated statements of operations and comprehensive loss.

The Company determined that the fair value of the earn-out shares issued to the Legacy Sema4 stockholders as of September 30, 2022 was reduced to \$0. The estimated fair value of the earn-out is determined using a Monte Carlo simulation valuation model.

As for the earn-out RSUs for the Legacy Sema4 option holders, a total of 2.7 million RSUs were granted on December 9, 2021. The vesting of such arrangement is conditioned on the satisfaction of both a service requirement and on the satisfaction of a market-based requirement. The market-based requirement would be achieved if the Company's stock price is greater than or equal to \$13 (Triggering Event I), \$15 (Triggering Event II) and \$18 (Triggering Event III) during the applicable performance period, based on the volume-weighted average price for a period of at least 20 days out of 30 consecutive trading days. Therefore, the Company accounts for this arrangement in accordance with ASC 718- Compensation — Stock Compensation ("ASC 718") and stock-based compensation expense is recognized over the longer of the expected achievement period for the market-based requirement and the service requirement. The Company recorded \$0.9 million of stock-based compensation expense in relation to the earn-out RSUs for the nine months ended September 30, 2022. In the event that any earn-out RSUs that are forfeited as a result of a failure to achieve the service requirement, the underlying shares will be reallocated on an annual basis to the Legacy Sema4 stockholders and to the Legacy Sema4

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

option holders who remain employed as of the date of such reallocation. The Company accounts for the re-allocations to Legacy Sema4 option holders as new grants.

***Capitalized Internal-Use Software Costs***

The Company capitalizes certain costs incurred related to the development of its software applications for internal use during the application development state. If a project constitutes an enhancement to existing software, the Company assesses whether the enhancement creates additional functionality to the software, thus qualifying the work incurred for capitalization. Costs incurred prior to meeting these criteria together with costs incurred for training and maintenance are expensed as incurred. Once the project is available for general release, capitalization ceases and the Company estimates the useful life of the asset and begins amortization. Upon prospective adoption of the ASU 2018-15, Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (“ASU 2018-15”) for the annual period ended December 31, 2021, \$2.3 million of eligible implementation costs incurred throughout 2021 were capitalized and recorded in the fourth quarter of 2021 in other current and non-current assets, of which \$0.1 million, \$0.1 million, \$0.8 million and \$1.3 million were related to the first, second, third and fourth quarter of 2021, respectively.

***Emerging Growth Company***

The Company is an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012. As such, the Company is eligible for exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies, including reduced reporting and extended transition periods to comply with new or revised accounting standards for public business entities. The Company has elected to avail itself of this exemption and, therefore, will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

***Recently Adopted Accounting Pronouncements***

In February 2016, the FASB issued ASU 2016-02, Leases (“Topic 842”), which requires lessees to recognize right-of-use assets and lease liabilities for most leases on their balance sheets. Expense recognition for lessees under ASC 842 is similar to current lease accounting. ASC 842 requires enhanced disclosures to help the financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. The Company adopted ASC 842 as of January 1, 2022, utilizing the modified retrospective adoption approach. In transition to the ASC 842, the Company elected to use the package of practical expedients permitted under the transition guidance that allowed us to not reassess: (i) whether any expired or existing contracts are or contain leases, (ii) the lease classification for any expired or existing leases, or (iii) initial direct costs for any existing leases. Additionally, the Company did not elect the hindsight practical expedient which would have permitted the use of hindsight in determining the lease term and assessing impairment. The Company elected to combine lease and non-lease components that are fixed and also elected not to recognize right-of-use assets and lease liabilities for leases with terms of 12 months or less (“short-term leases”). The adoption of the ASC 842 as of January 1, 2022, resulted in the recognition of operating lease right-of-use assets and operating lease liabilities of \$39.2 million and \$42.2 million, respectively. The adoption did not have material impact on finance leases. The adoption did not have material impact on the condensed consolidated statements of operations and comprehensive loss. Refer to “*Note 9 Leases*” for a discussion of the Company’s lease accounting following the adoption of ASC 842.

In November 2021, the FASB issued ASU 2021-10, Government Assistance (Topic 832), Disclosures by Business Entities About Government Assistance, which requires entities to provide disclosures on material government assistance transactions for annual reporting periods. The disclosures include information around the nature of the assistance, the related accounting policies used to account for government assistance, the effect of government assistance on the entity’s financial statements, and any significant terms and conditions of the agreements, including commitments and contingencies. The Company adopted ASU 2021-10 effective January 1, 2022. The Company did not receive any such grants during the nine months ended September 30, 2022.

***Recently Issued Accounting Pronouncements Not Yet Adopted***

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* (“ASU 2016-13”). The new credit losses standard changes the impairment model for most financial assets and certain other instruments. For trade and other receivables, contract assets recognized as a

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

result of applying ASC 606, loans and certain other instruments, entities will be required to use a new forward looking “expected loss” model that generally will result in earlier recognition of credit losses than under today’s incurred loss model. As an emerging growth company, ASU 2016-13 is effective for annual periods beginning after December 15, 2022, with early adoption permitted. Application of the amendments is through a cumulative-effect adjustment to the opening retained earnings as of the beginning of the first reporting period in which the guidance is effective. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements and related disclosures.

**3. Business Combinations*****CMLS Business Combination***

On July 22, 2021, the Company consummated the Business Combination (as defined in Note 1) and received net cash proceeds of \$510.0 million.

Pursuant to the Business Combination, the following occurred:

- Holders of 10,188 shares of CMLS’s Class A common stock sold in its initial public offering (the “public shares”) exercised their right to have such shares redeemed for a full pro rata portion of the trust account holding the proceeds from CMLS’s initial public offering (the “IPO”), which was approximately \$10.00 per share, or \$101,880 in aggregate.
- Each share of CMLS’s Class B common stock was automatically converted into common stock of the Company.
- Each share of the Legacy Sema4 Class B common stock was converted into 1/100th of a share of Legacy Sema4 Class A common stock and each share of Legacy Sema4 common stock and preferred stock was canceled and received a portion of the merger consideration, resulting in certain Legacy Sema4 stockholders receiving \$230,665,220 of cash and the Legacy Sema4 stockholders receiving an aggregate of 178,336,298 shares of common stock of the Company.
- Pursuant to subscription agreements entered into on February 9, 2021, certain investors agreed to subscribe for an aggregate of 35,000,000 newly-issued shares of common stock at a purchase price of \$10.00 per share for an aggregate purchase price of \$350,000,000 (the “Business Combination PIPE Investment”). Concurrently with the closing of the Business Combination, the Company consummated the Business Combination PIPE Investment.
- After giving effect to the Business Combination Merger, the redemption of public shares and the conversion of the CMLS Class B common stock as described above, and the consummation of the Business Combination PIPE Investment, there were 240,190,402 shares of the Company’s common stock issued and outstanding.

In 2021, the Company recorded \$51.8 million of transaction costs which consisted of direct, incremental legal, professional, accounting, and other third-party fees that were directly related to the execution of the Business Combination Merger in additional paid-in capital. Upon consummation of the Business Combination Merger, \$9.0 million of the transaction costs relates to costs incurred by Legacy Sema4 and reclassified to offset against equity from prepaid expense and other current assets.

***GeneDx Acquisition***

As discussed in Note 1, on April 29, 2022, the Company completed the Acquisition of GeneDx. At the closing of the Acquisition, the Company paid OPKO gross cash consideration of \$150 million (before deduction of transaction expenses and other customary purchase price adjustments) and issued to OPKO 80 million shares of the Company’s Class A common stock (\$172 million based on the closing date share price of \$2.15 per share). A portion of this cash (\$13.4 million) and share consideration (8.3 million shares) will be held in escrow for 12 months following the closing date of the Acquisition. In addition, up to \$150 million is payable following the closing of the Acquisition, if certain revenue-based milestones are achieved for each of the fiscal years ending December 31, 2022 and December 31, 2023. These milestone payments, if and to the extent earned under the terms of the Acquisition Merger Agreement, will be satisfied through the payment and/or issuance of a combination of cash and shares of the Company’s Class A common stock (valued at \$4.86 per share, subject to adjustment for stock splits and similar changes), with such mix to be determined in the Company’s sole discretion. Concurrently with the closing of the Acquisition, the Company also issued and sold in private

## Sema4 Holdings Corp.

### Notes to Unaudited Condensed Consolidated Financial Statements

placement 50,000,000 shares of the Company's Class A common stock to certain institutional investors for aggregate gross proceeds of \$200 million (the "Acquisition PIPE Investment").

For the nine months ended September 30, 2022, \$12.1 million of GeneDx Acquisition-related costs are reflected within general and administrative expenses in the Company's condensed consolidated statements of operations and comprehensive loss. These costs include third-party professional firms' services related to due diligence, advisory and legal services. The Company's consolidated results include \$45.6 million of revenue and \$(8.6) million of pretax loss for the three months ended September 30, 2022 and \$71.7 million of revenue and \$(17.6) million of pretax loss for the nine months ended September 30, 2022 from GeneDx.

#### ***Pro forma financial information***

The pro forma information below gives effect to the Acquisition as if it had been completed on January 1, 2021 ("the pro forma acquisition date"). The pro forma information is not necessarily indicative of the Company's revenue results had the Acquisition been completed on the pro forma acquisition date, nor is it necessarily indicative of the Company's future results. The pro forma revenue information reflects GeneDx's historic revenue and does not include any additional revenue opportunities following the Acquisition. The purchase price allocations for the assets acquired and liabilities assumed are based on preliminary valuations and are subject to change as the Company obtains additional information during the acquisition measurement period. Increases or decreases in the estimated fair values of the net assets acquired may impact the Company's consolidated statements of operations and comprehensive loss in future periods. The Company expects that the values assigned to the assets acquired and liabilities assumed will be finalized during the one-year measurement period following the Acquisition closing date. The pro forma revenues and net loss include the following adjustments based on the Company's preliminary analysis and are subject to change as additional analysis is performed:

- revised amortization expense resulting from the acquired intangible assets,
- historical intercompany revenue recognized by GeneDx with OPKO or other related parties,
- income tax benefits resulting from the deferred tax liabilities acquired, and
- revised stock based compensation reflecting the inducement awards issued to the GeneDx employees.

	Three months ended September 30,		Nine months ended September 30,	
	2022	2021	2022	2021
Pro forma revenues	\$ 83,234	\$ 72,953	\$ 221,604	\$ 236,604
Pro forma net (loss) income	\$ (77,581)	\$ 22,673	\$ (318,492)	\$ (195,311)

For three months ended September 30, 2022 and 2021 pro forma revenues included GeneDx revenue of \$45.6 million and \$29.8 million, respectively. The increase of \$15.8 million which represents 50% in GeneDx revenue was a result of an increase in both volumes and average reimbursement rates.

#### **4. Revenue Recognition**

##### ***Diagnostic Revenue***

The Company's diagnostic test revenue contracts typically consist of a single performance obligation to deliver diagnostic testing services to the ordering facility or patient and therefore allocation of the contract transaction price is generally not applicable. Revenue from diagnostic testing services is recorded at the estimated transaction price, subject to the constraint for variable consideration, upon transfer of control of the service. Control over diagnostic testing services is generally transferred at a point in time when the customer obtains control of the promised service which is upon delivery of the test.

##### ***Other Revenue***

The Company enters into both short-term and long-term project-based collaboration and service agreements with third parties, whereby the Company provides diagnostic testing, research and related data aggregation reporting services.

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

The consideration to which the Company is entitled pursuant to its collaboration and service agreements includes non-refundable upfront payments, fixed and variable payments based upon the achievement of certain milestones during the contract term. Non-refundable upfront payments are generally received in advance of performing the services and, therefore, are recorded as a contract liability upon receipt. Fixed and variable milestone payments are included in the transaction price only when it is probable that doing so will not result in a significant reversal of cumulative revenue recognized when the uncertainty associated with the milestone is subsequently resolved. Revenue for such collaboration and service agreements is recognized over time using an input measure based on costs incurred to satisfy the performance obligation.

**Disaggregated revenue**

The following table summarizes the Company's disaggregated revenue by payor category (in thousands):

	<b>Three months ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
Diagnostic test revenue		
Patients with third-party insurance	\$ 64,391	\$ 36,738
Institutional customers	15,244	3,656
Self-pay patients	1,855	1,016
Total diagnostic test revenue	81,490	41,410
Other revenue	1,744	1,768
Total	\$ 83,234	\$ 43,178

	<b>Nine months ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
Diagnostic test revenue		
Patients with third-party insurance	\$ 133,251	\$ 123,395
Institutional customers	30,395	23,075
Self-pay patients	4,343	2,503
Total diagnostic test revenue	167,989	148,973
Other revenue	5,355	5,421
Total	\$ 173,344	\$ 154,394

**Reassessment of variable consideration**

Subsequent changes to the estimate of the transaction price, determined on a portfolio basis when applicable, are generally recorded as adjustments to revenue in the period of the change. The Company updates estimated variable consideration quarterly.

For the three months ended September 30, 2022, the quarterly change in estimate included a further decrease in revenue related to a payor, as further disclosed in the "—Certain payor matters" below, for tests in which the performance obligation of delivering the test results was met in prior periods. The downward adjustment was recorded based on the Company's updated estimate as of September 30, 2022. The decrease was further offset by other upward adjustments made for tests in which the performance obligation of delivering the test results was met in prior periods related to other payors. On a net basis, the Company's change in estimate did not result in a material change in the current quarter's revenue.

During the second quarter of 2022, the Company recorded \$30.1 million decrease to revenue for tests in which the performance obligation of delivering the test results was met in the first quarter of 2022 and prior years. \$24.2 million of this decrease is related to the years December 31, 2021 and prior. The change in estimate is a result of changes in the estimated transaction price due to contractual adjustments, obtaining updated information from payors and patients that was unknown at the time the performance obligation was met and potential and actual settlements with third party payors. As described in more detail below, third-party payors may decide to deny payment or seek to recoup payments for tests performed by the Company for a number of reasons and, as a result, the Company may be required to refund payments

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

already received, and the Company's revenues may be subject to retroactive adjustment as a result. The Company processes requests for recoupment from third-party payors in the ordinary course of its business and reflects in the Company's transaction price estimations. See "—Certain payor matters" below for further details regarding an ongoing matter related to certain overpayments the Company allegedly received from a third-party payor; the Company has established certain liabilities and reversed certain of its previously recorded revenue as a result of this matter and other potential settlements with payors.

***Certain payor matters***

As noted above, third-party payors, including government programs, may decide to deny payment or seek to recoup payments for tests performed by the Company that they contend were improperly billed, not medically necessary or against their coverage determinations, or for which they believe they have otherwise overpaid, including as a result of their own error. As a result, the Company may be required to refund payments already received, and the Company's revenues may be subject to retroactive adjustment as a result of these factors among others, including without limitation, differing interpretations of billing and coding guidance, and changes by government agencies and payors in interpretations, requirements, policies and/or "conditions of participation" in various programs. The Company processes requests for recoupment from third-party payors in the ordinary course of its business, and it is likely that the Company will continue to do so in the future. If a third-party payor denies payment for testing or recoups money from the Company in a later period, reimbursement and the associated recognition of revenue for the Company's testing services could decline.

As an integral part of the Company's billing compliance program, in the third quarter of 2022, the Company instituted a third-party review of billing claims and compliance practices, and initiated improvements including implementing a package of new billing compliance policies and procedures and strengthening the Company's billing compliance team. From time to time, the Company may have an obligation to reimburse Medicare, Medicaid, and third-party payors for overpayments regardless of fault. Settlements with third-party payors for retroactive adjustments due to audits, reviews, or investigations are considered variable consideration and are included in the determination of the estimated transaction price for providing services. These settlements are estimated based on the terms of the payment agreement with the payor, correspondence from the payor, the Company's historical settlement activity (if any), and the Company's assessment of the probability a significant reversal of cumulative revenue recognized will occur when the uncertainty is subsequently resolved. Estimated settlements are adjusted in future periods as such adjustments become known (that is, if new information becomes available), or as years are settled or are no longer subject to such audits, reviews, and investigations.

The Company is currently engaged in discussions with one of the Company's third-party payors regarding certain overpayments the Company allegedly received from the payor for services that the payor alleges are not covered by, or were not otherwise properly billed to, the payor. This payor has asserted in informal discussions that it will seek recovery or recoupment in relation to the alleged overpayments if the matter cannot be settled. While the Company believes it has defenses to the payor's allegations, it is currently engaged in discussions seeking to resolve the matter and any claim that may arise in connection therewith in a mutually satisfactory manner.

As a result of this matter, and in connection with a review of certain billing policies and procedures undertaken by management, the Company considered the need to establish reserves for potential recoupments of payments previously made by third-party payors. As of September 30, 2022, the Company continues to carry liabilities that were initially established as of June 30, 2022 as a result of this matter and other potential settlements with payors, as adjusted as of September 30, 2022, based on the current facts and an evaluation of anticipated results that the Company believes reasonable for all potential recoupments for all third-party payors combined. As of September 30, 2022, \$39.8 million of liabilities were recorded in Accounts payable and accrued expenses and other liabilities. See Note 15, "Supplemental Financial Information". The Company uses estimates, judgments, and assumptions to assess whether it is probable that a significant reversal in the amount of cumulative revenue may occur in future periods, based upon information presently available. These estimates are subject to change. In addition, as discussed above, the Company has made certain adjustments to its estimated variable consideration as result of this matter and other potential settlements with payors.

***Remaining performance obligations***

For certain long-term collaboration service agreements with original expected durations of more than one year, the Company's obligations pursuant to such agreement represents partially unsatisfied performance obligations as of



**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

September 30, 2022. The revenues under the agreements are estimated to be approximately \$7.6 million. The Company expects to recognize the majority of this revenue over the next 2.5 years.

***Contract assets and liabilities***

Contract assets consist of the Company's right to consideration that is conditional upon its future performance. Contract assets arise in collaboration and service agreements for which revenue is recognized over time but the Company's right to bill the customer is contingent upon the achievement of contractually-defined milestones.

Contract liabilities consist of customer payments in excess of revenues recognized. For collaboration and service agreements, the Company assesses the performance obligations and recognizes contract liabilities as current or non-current based upon forecasted performance.

A reconciliation of the beginning and ending balances of contract assets and contract liabilities is shown in the table below (in thousands):

	<b>Contract Assets</b>	<b>Contract Liabilities</b>
December 31, 2021	\$ 3,296	\$ 3,769
Contract asset additions	1,861	
Amounts transferred to receivables	(800)	
Customer prepayments		737
Revenue recognized		(1,682)
Other	(92)	
September 30, 2022	\$ 4,265	\$ 2,824

The Company presents contract assets and contract liabilities with respect to the same customer contracts on a net basis on its condensed consolidated balance sheets. As of September 30, 2022, there were \$1.4 million current contract assets recorded and \$0.5 million of contract liabilities were recorded as of December 31, 2021.

Revenues recognized that were included in the contract liability balance at the beginning of each period were \$0.7 million and \$0.3 million for the three months ended September 30, 2022 and September 30, 2021, respectively and \$1.7 million and \$2.1 million for the nine months ended September 30, 2022 and September 30, 2021, respectively.

***Costs to fulfill contracts***

Costs associated with fulfilling the Company's performance obligations pursuant to its collaboration service agreements include costs for services that are subcontracted to ISMMS. Amounts prepaid are expensed in line with the pattern of revenue recognition. Prepayment of amounts prior to the costs being incurred are recognized on the condensed consolidated balance sheets as current or non-current based upon forecasted performance.

As of September 30, 2022 and December 31, 2021, the Company had outstanding deferred costs to fulfill contracts of \$0.3 million and \$1.8 million, respectively, which were recorded as other current assets on the condensed consolidated balance sheets. The Company expect to make additional payments to ISMMS under an amended subcontract agreement with ISMMS.

Amortization of deferred costs was \$0.5 million and \$0.3 million for the three months ended September 30, 2022 and 2021, respectively and \$1.5 million and \$0.9 million for the nine months ended September 30, 2022 and 2021, respectively. The amortization costs were recorded in the cost of services on the condensed consolidated statements of operations and comprehensive loss.

**5. Fair Value Measurements**

Financial assets and liabilities are recorded at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.



**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The Company determines the fair value of its financial instruments based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. The following hierarchy lists three levels of fair value based on the extent to which inputs used in measuring fair value are observable in the market:

*Level 1:* Observable inputs such as quoted prices (unadjusted) in active markets that are accessible at the measurement date for identical assets or liabilities.

*Level 2:* Observable inputs such as quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active or model-derived valuations whose significant inputs are observable.

*Level 3:* Unobservable inputs that are significant to the measurement of fair value but are supported by little to no market data.

The Company's financial assets and liabilities consist of cash and cash equivalents, restricted cash, accounts receivable, accounts payable, accrued liabilities, finance leases, warrant liability and earn-out contingent liabilities, contingent consideration based on milestone achievement and long-term debt. The Company's cash and cash equivalents, restricted cash, accounts receivable, accounts payable and accrued liabilities approximate their fair value due to the relatively short-term nature of these accounts.

The Company's finance leases are classified within Level 1 of the fair value hierarchy because such finance lease agreements bear interest at rates for instruments with similar characteristics; accordingly, the carrying value of these liabilities approximate their fair values.

The Company's loan from the Connecticut Department of Economic and Community Development is classified within Level 2 of the fair value hierarchy. As of September 30, 2022, the loan was recorded at its carrying value of \$11 million with the current portion of \$0.3 million recorded in other current liabilities within the condensed consolidated balance sheet. The fair value was \$8.8 million, which is estimated based on discounted cash flows using the yields of similar debt instruments of other companies with similar credit profiles.

The following tables set forth the fair value of financial instruments that were measured at fair value on a recurring basis (in thousands):

	As of September 30, 2022			
	Total	Level 1	Level 2	Level 3
<b>Financial Assets:</b>				
Money market funds	\$ 35,518	\$ 35,518	\$ —	\$ —
Total financial assets	<u>\$ 35,518</u>	<u>\$ 35,518</u>	<u>\$ —</u>	<u>\$ —</u>
<b>Financial Liabilities:</b>				
Public warrant liability	\$ 3,394	\$ 3,394	\$ —	\$ —
Private warrant liability	1,664	—	1,664	—
Earn-out contingent liability	—	—	—	—
Contingent consideration based on milestone achievement	\$ 24,390	\$ —	\$ —	\$ 24,390
Total financial liabilities	<u>\$ 29,448</u>	<u>\$ 3,394</u>	<u>\$ 1,664</u>	<u>\$ 24,390</u>

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

	As of December 31, 2021			
	Total	Level 1	Level 2	Level 3
<b>Financial Assets:</b>				
Money market funds	\$ 385,370	\$ 385,370	\$ —	\$ —
<b>Total financial assets</b>	<b>\$ 385,370</b>	<b>\$ 385,370</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Financial Liabilities:</b>				
Public warrant liability	\$ 14,463	\$ 14,463	\$ —	\$ —
Private warrant liability	7,092	—	7,092	—
Earn-out contingent liability	10,244	—	—	10,244
<b>Total financial liabilities</b>	<b>\$ 31,799</b>	<b>\$ 14,463</b>	<b>\$ 7,092</b>	<b>\$ 10,244</b>

Of the \$191.4 million cash and cash equivalents presented on the condensed consolidated balance sheets as of September 30, 2022, \$35.5 million was in money market funds and was classified within Level 1 of the fair value hierarchy as the fair value was based on quoted prices in active markets.

The Company's outstanding warrants include publicly-traded warrants (the "Public Warrants") which were originally issued in the IPO and warrants sold in a private placement to CMLS Holdings LLC (the "Private Warrants"). The Company evaluated its warrants under ASC 815-40, Derivatives and Hedging—Contracts in Entity's Own Equity, and concluded that they do not meet the criteria to be classified in stockholders' equity. Since the Public Warrants and Private Warrants meet the definition of a derivative under ASC 815, the Company recorded these warrants as non-current liabilities on the balance sheet at fair value upon the closing of the Business Combination, with subsequent changes in their respective fair values recognized in other income on the condensed consolidated statements of operations and comprehensive loss at each reporting date. As of September 30, 2022, the Public Warrants are classified within Level 1 of the fair value hierarchy as they are traded in active markets. The Private Warrants are classified within Level 2 of the fair value hierarchy as management determined the fair value of each Private Warrant is the same as that of a Public Warrant because the terms are substantially the same.

The earn-out contingent liabilities include the Company's contingent obligation to issue earn-out shares for Legacy Sema4 stockholders ("Earn-out Shares") as well as the Company's contingent obligation to make additional Milestone Payments of up to \$150 million to OPKO if certain revenue-based milestones are achieved for each of the fiscal years ended December 31, 2022 and December 31, 2023.

The Earn-out Shares are accounted for as a liability and required remeasurement at each reporting date. The estimated fair value of the total Earn-out Shares as of September 30, 2022 is determined based on a Monte Carlo simulation valuation model. The fair value of the earn-out contingent liability is sensitive to the expected volatility for the Company and the Company's Class A common stock price which is sensitive to changes in the forecasts of earnings and/or the relevant operating metrics. The expected volatility for the Company is based on the historical volatility of selected guideline companies, the historical volatility of the Company, and the implied volatility of the Company's call options. The key assumptions utilized in determining the Earn-out Shares valuation as of September 30, 2022 and June 30, 2022 were as follows:

	September 30, 2022	June 30, 2022
Stock price	\$0.88	\$1.26
Expected volatility	107.5%	87.5%
Expected term (in years)	0.8	1
Risk-free interest rate	4.00%	2.81%

The fair value determined and recorded as of June 30, 2022 and December 31, 2021 was \$0.2 million and \$10.2 million, respectively. During the three and nine months ended September 30, 2022 a gain of \$0.2 million and \$10.2 million was recorded, respectively, in the change in fair market value of warrant and earn-out contingent liability in the condensed consolidated statements of operations and comprehensive loss based on re-measurement performed as of the period end date.

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

The Milestone Payments contingent liability represents additional acquisition consideration to pay up to \$150 million based on the achievement of GeneDx revenue-based milestones in fiscal years 2022 and 2023. Subject to the terms and conditions of the Acquisition Merger Agreement, (a) the first Milestone Payment of \$112.5 million will become due and payable if the revenue of the GeneDx group for the fiscal year 2022 equals or exceeds \$163 million and (b) the second Milestone Payment of \$37.5 million will become due and payable if the revenue of the GeneDx group for the fiscal year 2023 equals or exceeds \$219 million; provided that 80% of the Milestone Payment for the first milestone period or the second milestone period, as applicable, will become payable in respect of such period if the GeneDx group achieves 90% of the applicable Milestone Event revenue target for such period, which amount will scale on a linear basis up to 100% of the applicable Milestone Payment at 100% of the applicable revenue target. Each Milestone Payment will be satisfied through the payment and/or issuance of a combination of cash and shares of the Company's Class A common stock (valued at \$4.86 per share), with such mix to be determined at the Company's sole discretion.

The Company recorded the fair value of the Milestone Payments for \$24.4 million as of September 30, 2022, of which \$19.9 million is presented as current liabilities in the condensed consolidated balance sheets. For the three and nine months ended September 30, 2022, a gain of \$10.6 million and \$27.6 million, respectively, was recorded in the change in fair market value of warrant and earn-out contingent liabilities in the condensed consolidated statements of operations and comprehensive loss based on re-measurement performed as of the period end date. The fair value was determined based on a Monte Carlo simulation valuation model and the key assumptions include revenue projections, revenue volatility of 25%, the Company's expectation to settle the liability in shares and share price of \$0.88 per share.

The earn-out contingent liabilities are categorized as Level 3 of the fair value hierarchy as the Company utilizes unobservable inputs in estimating the fair value. There were no transfers between Level 1, Level 2 and Level 3 during the periods presented.

## **6. Property and Equipment**

Property and equipment, net consisted of the following (in thousands):

	As of September 30, 2022	As of December 31, 2021
Laboratory equipment	\$ 38,987	\$ 28,552
Equipment under finance leases	21,391	21,384
Leasehold improvements	35,532	21,905
Capitalized software	31,486	25,693
Building under finance lease	6,276	6,276
Construction in-progress	8,891	940
Computer equipment	9,366	6,634
Furniture, fixtures and other equipment	3,771	3,241
<b>Total property and equipment</b>	<b>155,700</b>	<b>114,625</b>
Less: accumulated depreciation and amortization	(71,331)	(51,906)
<b>Property and equipment, net</b>	<b>\$ 84,369</b>	<b>\$ 62,719</b>

For the three months ended September 30, 2022 and 2021, depreciation and amortization expense was \$7.0 million and \$5.5 million. For the nine months ended September 30, 2022 and 2021, depreciation and amortization expense was \$19.4 million and \$16.0 million, respectively. This included software amortization expense of \$1.7 million and \$1.4 million for the three months ended September 30, 2022 and 2021, respectively and \$5.0 million and \$4.0 million for the nine months

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

ended September 30, 2022 and 2021, respectively. Depreciation and amortization expense is included within the condensed consolidated statements of operations and comprehensive loss as follows (in thousands):

	<b>Three months ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
Cost of services	\$ 5,203	\$ 3,679
Research and development	1,973	1,500
Selling and marketing	1	1
General and administrative	(182)	311
<b>Total depreciation and amortization expenses</b>	<b>\$ 6,995</b>	<b>\$ 5,491</b>

  

	<b>Nine months ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
Cost of services	\$ 11,335	\$ 10,824
Research and development	5,811	4,197
Selling and marketing	3	2
General and administrative	2,276	989
<b>Total depreciation and amortization expenses</b>	<b>\$ 19,425</b>	<b>\$ 16,012</b>

## **7. Related Party Transactions**

### ***Related party revenues***

Related party revenues primarily include diagnostic testing revenues generated by GeneDx from BioReference Laboratories, Inc. ("BRLI"), which is a subsidiary of OPKO. The prices charged represent market rates. Revenue recorded from this contract was \$0.6 million and \$1.0 million for the three and nine months ended September 30, 2022, respectively.

### ***Related party expenses***

For three months ended September 30, 2022 and 2021, the Company incurred certain related party costs. There were no expenses recognized under the Transition Services Agreement with ISMMS (the "ISMMS TSA") for the three months ended September 30, 2022 and 2021. There were no expenses recognized under the ISMMS TSA for the nine months ended September 30, 2022 and \$1.4 million for the nine months ended September 30, 2021 which is presented within related party expenses in the condensed consolidated statements of operations and comprehensive loss. The Company had no ISMMS TSA payables due to ISMMS as of September 30, 2022 and December 31, 2021. The ISMMS TSA expired on March 28, 2021.

Expenses recognized pursuant to other service arrangements with ISMMS, including certain sub-lease arrangements the Company has through ISMMS, totaled \$2.0 million and \$1.5 million for the three months ended September 30, 2022 and 2021, respectively and \$6.2 million and \$4.1 million for the nine months ended September 30, 2022 and 2021, respectively. These amounts include certain lease expenses the Company incurs and pay to ISMMS for certain sub-lease arrangements. They are included in either cost of services or related party expenses on the condensed consolidated statements of operations and comprehensive loss depending on the particular activity to which the costs relate. Payables due to ISMMS for the other service arrangements were \$1.5 million and \$2.6 million as of September 30, 2022 and December 31, 2021, respectively. These amounts include unpaid lease payments the Company accrued for the payments to be made to ISMMS and are included within due to related parties on the Company's condensed consolidated balance sheets.

Additionally, the Company has purchased \$1.3 million of diagnostic testing kits and materials and \$1.3 million was recorded in cost of services for the nine months ended September 30, 2022 from an affiliate of a member of the Board of

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

Directors who has served in the role since July 2021. The prices paid represent market rates. Payables due were \$0 million and \$0.1 million as of September 30, 2022 and December 31, 2021, respectively.

GeneDx and OPKO entered into a Transition Services Agreement dated as of April 29, 2022 (the “OPKO TSA”) pursuant to which OPKO has agreed to provide, at cost, certain services in support of the Acquisition of the GeneDx business through December 31, 2022, subject to certain limited exceptions, in order to facilitate the transactions contemplated by the Acquisition Merger Agreement, including human resources, information technology support, and finance and accounting. The Company recognized \$0.5 million and \$0.8 million in costs for the three and nine months ended September 30, 2022, respectively. As of September 30, 2022, \$0.3 million was unpaid and included in due to related parties in condensed consolidated balance sheets.

The Company also recorded \$4.5 million of receivables from OPKO related to the Acquisition closing working capital adjustment. This amount is presented as other current assets in condensed consolidated balance sheets as of September 30, 2022.

Total related party costs are included within cost of services and related party expenses in the condensed consolidated statements of operations and comprehensive loss as follows (in thousands):

	Three months ended September 30,	
	2022	2021
Cost of services	\$ 1,103	\$ 656
Related party expenses	1,697	847
Total related party costs	<u>\$ 2,800</u>	<u>\$ 1,503</u>
	Nine months ended September 30,	
	2022	2021
Cost of services	\$ 3,507	\$ 1,942
Related party expenses	4,712	3,532
Total related party costs	<u>\$ 8,219</u>	<u>\$ 5,474</u>

## 8. Long-Term Debt

### *Loan and Security Agreement (the “SVB Agreement”)*

On November 15, 2021, the Company and Sema4 OpCo, Inc. (together, the “Borrower”) entered into a Loan and Security Agreement (the “SVB Agreement”) with Silicon Valley Bank (“SVB”). The SVB Agreement provides for a revolving credit facility (the “Revolver”) up to an aggregate principal amount of \$125.0 million, including a sublimit of \$20.0 million for Letters of Credit (as such terms are defined in the SVB Agreement). The outstanding principal amount of any Advance (as such term is defined in the SVB Agreement) will bear interest at a floating rate per annum equal to the greater of (1) 4.00% and (2) the Prime Rate plus the Prime Rate Margin. The Revolver will mature on November 15, 2024. In connection with entering into the SVB agreement, the Company paid \$0.5 million in debt issuance costs during 2021. The Company will pay an additional \$0.5 million in fees to SVB at each anniversary of the SVB Agreement date for a total of \$1.0 million and these fees are recorded in other current liabilities and other liabilities in the condensed consolidated balance sheets as of September 30, 2022. These costs are capitalized and amortized on a straight-line basis over the contractual term. Any unused fees charged on the Revolver is expensed as incurred.

The obligations under the SVB Agreement are secured by a first priority perfected security interest in substantially all of the Borrower’s assets except for (i) Governmental Collection Accounts (as defined in the SVB Agreement), (ii) more than 65% of the presently existing and thereafter arising issued and outstanding shares of capital stock owned by Borrowers in a Foreign Subsidiary (as such term is defined in the SVB Agreement) and (iii) intellectual property pursuant to the terms of the SVB Agreement.

The SVB Agreement contains affirmative and negative covenants, including, among other things, restrictions on indebtedness, liens, investments, mergers, dispositions, and dividends and other distributions.

The SVB Agreement requires the Borrower to comply with certain financial covenants if Liquidity (as such term is defined in the SVB Agreement) falls below \$135.0 million. These financial covenants include (i) a minimum Adjusted

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

Quick Ratio (as such term is defined in the SVB Agreement) and (ii) the achievement of certain minimum revenue targets. On a monthly basis, the Borrowers would be required to maintain a minimum Adjusted Quick Ratio of greater than or equal to 1.25 to 1.0. The Borrower must also maintain certain trailing six-month minimum revenue targets through maturity if outstanding borrowings under the Revolver exceed \$50.0 million.

The SVB Agreement also includes customary events of default, including failure to pay principal, interest or certain other amounts when due, material inaccuracy of representations and warranties, violation of covenants, certain bankruptcy and insolvency events, certain undischarged judgments, material invalidity of guarantees or grant of security interest, material adverse change, and involuntary delisting from the Nasdaq Stock Market, in certain cases subject to certain thresholds and grace periods. If one or more events of default occurs and continues beyond any applicable cure period, SVB may, without notice or demand to the Borrower, terminate its commitment to make further loans and declare all of the obligations of the Borrowers under the SVB Agreement to be immediately due and payable. The Company was in compliance with all covenants as of September 30, 2022.

No amounts have been drawn under the SVB Agreement as of September 30, 2022.

**2016 Funding Commitment**

In June 2017, ISMMS assigned a loan funding commitment from the Connecticut Department of Economic and Community Development (“DECD”) to the Company (as amended, the “DECD Loan Agreement”). The DECD Loan Agreement, provides for a total loan commitment of \$15.5 million at a fixed annual interest rate of 2.0% for a term of 10 years. The Company is required to make interest-only payments through July 2023 and principal and interest payments commencing in August 2023. The final payment of principal and interest is due in July 2028. However, under the terms of the DECD Loan Agreement, the DECD may grant partial principal loan forgiveness of up to \$12.3 million in the aggregate. Such forgiveness is contingent upon the Company achieving job creation and retention milestones and \$4.5 million has been forgiven as of September 30, 2022. This commitment is collateralized by providing a security interest in certain machinery and equipment the Company acquired from ISMMS, as defined in a separate security agreement.

The outstanding loan balance from the DECD Loan Agreement was \$11.0 million as of September 30, 2022 and December 31, 2021.

See Note 17 for a description of certain events occurring after September 30, 2022 related to the DECD Loan Agreement.

**Maturities of Long-Term Debt**

As of September 30, 2022, long-term debt matures as follows (in thousands):

2022 (remainder of year)	\$	—
2023		875
2024		2,131
2025		2,174
2026		2,218
Thereafter		3,602
Total maturities of long-term debt		11,000
Less: current portion of long-term debt		(349)
Total long-term debt, net of current maturities	\$	10,651

**2020 Master Loan Agreement**

In August 2020, the Company entered into a loan and security agreement with a bank (the “Master Loan Agreement”), in which the Company received a loan of \$6.3 million and deposited the proceeds into a deposit account held by the bank. The Company was required to make sixty consecutive monthly payments of principal and interest at a fixed monthly amount of \$0.1 million beginning in November 2020. Interest payments were fixed at an annual interest rate of 4.75%.

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

In July 2021, the Company terminated the Master Loan Agreement by paying off the full amount, including \$5.4 million principal and interest and \$0.1 million in early payment penalties assessed pursuant to the terms of the agreement.

***2020 Master Lease Agreement***

In December 2020, the Company entered into a lease agreement with a lender whereby the Company agreed to sell certain equipment and immediately lease back the equipment, resulting in proceeds of \$3.6 million. Per the terms of the agreement, a financial institution issued an irrevocable standby letter of credit to the lender for \$3.6 million. The Company was required to make sixty consecutive monthly payments of principal and interest at a fixed monthly amount of \$0.1 million beginning in February 2021. Interest payments were fixed at an annual interest rate of 3.54%.

The Company was required to maintain an aggregate amount on deposit equal to at least 105% of the value of any outstanding letters of credit issued by the financial institution on the Company's behalf. The letter of credit was required to be in place until all obligations had been paid in full. Further, the Company was required to furnish annual audited financial statements and other financial information to the lender on a regular basis.

In July 2021, the Company terminated the Master Lease Agreement by paying off the full amount, including \$3.3 million principal and interest and early payment penalties of \$0.2 million assessed pursuant to the terms of the agreement.

**9. Leases*****Lease Accounting***

The Company enters into contracts in the normal course of business and assesses whether any such contracts contain a lease. The Company determines if an arrangement is a lease at inception if it conveys the right to control the identified asset for a period of time in exchange for consideration. The Company classifies leases as operating or financing in nature. All lease liabilities are measured at the present value of the associated payments, discounted using the Company's incremental borrowing rate determined based on the rate of interest that the Company would pay to borrow on a collateralized basis an amount equal to the lease payments for similar term and in a similar economic environment on a collateralized basis, unless there is a rate implicit in the lease that is readily determinable.

***Operating Leases***

The Company's operating lease arrangements are principally for office space and laboratory facilities. The Company's headquarter lease was initially entered into via sub-lease agreements with ISMMS and a third party and they will expire in 2034. The agreements include escalating rent and rent-free period provisions. Pursuant to the terms of the lease agreement, the Company was required to have issued an irrevocable standby letter of credit to the lessor for \$0.9 million, which was included in restricted cash on the condensed consolidated balance sheets as of September 30, 2022 and consolidated balance sheets as of December 31, 2021.

In April 2019, the Company entered into a sublease agreement to rent a building to be used for office and laboratory facility (the "Stamford Lease") for a base term of 325 months, expiring in October 2046. The Company has the option to renew the lease at the end of the initial base term for either one period of 10 years, or two periods of 5 years. There is also an early termination option in which the Company may cancel the lease after the 196th month with cancellation fees. At inception of the Stamford Lease, the value of the land was determined to be more than 25% of the total value and therefore the building is accounted for as a finance lease and the land as an operating lease.

In January 2020, the Company entered into a lease agreement which expanded the Company's existing laboratory facility in Branford, Connecticut. The lease commenced in February 2020 with a 10 year term. The lease includes escalating rent fees over the lease term.

In April 2022, the Company acquired an operating lease for office space and laboratory operations in connection with the Acquisition. The lease includes a base term of 9 years remaining from the date of acquisition and an escalating rent provision.

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

In July 2022, the Company executed a lease agreement to extend the lease term of existing office spaces, commencing in September 2022 for a period of 13 months.

**Finance Leases**

The Company enters into various finance lease agreements to obtain laboratory equipment that contain bargain purchase commitments at the end of the lease term. The leases are secured by the underlying equipment. As discussed above, the Company also leases a building used for office and laboratory space in which the building is accounted for as a finance lease and the land is as an operating lease. The interest rate used for the Stamford Lease is 13.1%, which is used to measure the operating and finance lease liability. As of December 31, 2021, the finance lease obligations of \$3.4 million and \$18.4 million were included in other current liabilities and other liabilities, respectively on the consolidated balance sheets.

The tables below present financial information associated with the Company's leases. This information is only presented as of, and for the three and nine months ended, September 30, 2022 because, the Company adopted the ASC 842 using a transition method that does not require application to periods prior to adoption (in thousands).

	Classification	September 30, 2022
<b>Assets</b>		
Operating lease assets	Operating lease right-of-use assets	\$ 44,000
Finance lease assets	Property and Equipment, net	11,300
<b>Total lease assets</b>		\$ 55,300
<b>Liabilities</b>		
<b>Current</b>		
Operating	Due to related parties	\$ 400
	Short-term lease liabilities	2,400
Finance	Due to related parties	-
	Short-term lease liabilities	2,500
<b>Non-current</b>		
Operating	Long-term lease liabilities	45,100
Finance	Long-term lease liabilities	17,200
<b>Total lease liabilities</b>		\$ 67,700

Lease cost	Three months ended September 30, 2022	Nine months ended September 30, 2022
<b>Operating lease cost</b>		
Operating lease cost	\$ 1,800	\$ 4,700
Short-term lease cost	116	400
Variable lease cost	140	400
<b>Total operating lease cost</b>	\$ 2,056	\$ 5,600
<b>Finance lease cost</b>		
Depreciation and amortization of leased assets	\$ 912	\$ 2,700
Interest on lease liabilities	547	1,600
<b>Total finance lease cost</b>	\$ 1,459	\$ 4,300
<b>Total lease cost</b>	\$ 3,515	\$ 9,900



**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

Future minimum lease payments under non-cancellable leases as of September 30, 2022 are as follows:

Maturity of lease liabilities	Operating leases	Finance leases	Total
2022 (remainder of the year)	\$ 1,409	\$ 1,170	\$ 2,579
2023	4,589	3,584	8,173
2024	5,504	2,763	8,267
2025	5,925	2,451	8,376
2026	6,066	2,003	8,069
Thereafter	57,511	49,884	107,395
Total	\$ 81,004	\$ 61,855	\$ 142,859
Less: imputed interest	\$ (32,997)	\$ (42,107)	\$ (75,104)
Present value of lease liabilities	\$ 48,007	\$ 19,748	\$ 67,755

Other information related to leases as of and for the nine months ended September 30, 2022 are as follows:

	September 30, 2022
<b>Weighted-average remaining lease term (years)</b>	
Operating leases	12.4
Finance leases	19
<b>Weighted-average discount rate</b>	
Operating leases	6.8%
Finance leases	11.0%
<b>Cash paid for amounts included in the measurement of lease liabilities</b>	
Operating cash flows from operating leases	\$4,146
Operating cash flows from finance leases	\$1,630
Financing cash flows from finance lease	\$2,632

## 10. Commitments and Contingencies

### *Purchase Obligations*

In the normal course of business, the Company enters into various purchase commitments primarily related to material and service agreements, laboratory supplies and software. At September 30, 2022, the Company's total future payments under noncancellable unconditional purchase commitments having a remaining term of over one year were \$8.9 million. The Company enters into contracts with suppliers to purchase materials needed for diagnostic testing. These contracts generally do not require multiple-year purchase commitments.

### *Contingencies*

The Company is a party to various actions and claims arising in the normal course of business. The Company does not believe that the outcome of these matters will have a material effect on the Company's condensed consolidated financial position, results of operations or cash flows. However, no assurance can be given that the final outcome of such proceedings will not materially impact the Company's condensed consolidated financial condition or results of operations.

Except as described below, the Company was not a party to any material legal proceedings as of September 30, 2022, nor is it a party to any material legal proceedings as of the date of issuance of these unaudited condensed consolidated financial statements.

**Sema4 Holdings Corp.****Notes to Unaudited Condensed Consolidated Financial Statements**

On September 7, 2022, a shareholder class action lawsuit was filed in the United States District Court for the District of Connecticut against the Company and certain of the Company's current and former officers. The complaint purports to bring suit on behalf of stockholders who purchased the Company's publicly traded securities between March 14, 2022 and August 15, 2022. The complaint purports to allege that defendants made false and misleading statements about the Company's business, operations and prospects in violation of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, and seeks unspecified compensatory damages, fees and costs. The Company believes the allegations and claims made in the complaint are without merit.

**11. Stock-Based Compensation*****Stock Incentive Plans***

The Company's 2017 Equity Incentive Plan (the "2017 Plan"), as amended in February 2018, allowed the grant of options, restricted stock awards, stock appreciation rights and restricted stock units. No options granted under the 2017 Plan are exercisable after 10 years from the date of grant, and option awards generally vest over a four-year period.

The 2017 Plan was terminated in connection with the adoption of the Company's 2021 Equity Incentive Plan (the "2021 Plan"). Any awards granted under the 2017 Plan that remained outstanding as of the Closing Date and were converted into awards with respect to the Company's Class A common stock in connection with the consummation of the Business Combination continue to be subject to the terms of the 2017 Plan and applicable award agreements, except for a modification of the repurchase provision, which is discussed further below.

On July 22, 2021, in connection with the Business Combination, the 2021 Plan became effective and 32,734,983 authorized shares of Class A common stock were reserved for issuance thereunder. The 2021 Plan will be administered by the Compensation Committee of the Company's Board of Directors, including determination of the vesting, exercisability and payment of the awards to be granted under the 2021 Plan. No awards granted under the 2021 Plan are exercisable after 10 years from the date of grant, and the awards granted under the 2021 Plan generally vest over a four-year period on a graded vesting basis.

Additionally, on May 2, 2022, the compensation committee of the Company's board of directors granted newly-hired employees inducement stock options to purchase an aggregate of 4,932,132 shares of the Company's Class A common stock and 4,285,208 RSUs as inducements material to such employee entering into employment with the Company. The stock options have an exercise price of \$2.20 per share, which was equal to the closing price of the Company's Class A common stock on the grant date. The stock options and RSUs granted to the newly-hired employees other than the Company's CEO, Chief Commercial Officer, and current Chief Financial Officer will vest with respect to 25% of the underlying shares on April 29, 2023, and will vest with respect to the remaining underlying shares in equal quarterly installments thereafter through April 29, 2026, in each case subject to the new employee's continued service with the company. The stock options and RSUs granted to the Company's CEO, Chief Commercial Officer, and current Chief Financial Officer will vest with respect to 25% of the underlying shares on April 29, 2023 and 25% of the underlying shares on April 29, 2024, and will vest with respect to the remaining underlying shares in equal quarterly installments thereafter through April 29, 2026, in each case subject to his or her continued service with the company. Each stock option has a 10-year term. The stock options and RSUs are subject to the terms and conditions identical to those of the 2021 Plan and a stock option agreement or restricted stock unit agreement, as applicable, covering the grant.

***Employee Stock Purchase Plan***

The 2021 Employee Stock Purchase Plan (the "2021 ESPP") became effective in connection with the Business Combination. The 2021 ESPP authorizes the issuance of shares of Class A common stock pursuant to purchase rights granted to employees. On each January 1 of each of 2022 through 2031, the aggregate number of shares of Class A common stock reserved for issuance under the 2021 Plan may be increased automatically by the number of shares equal to one percent (1%) of the total number of shares of all classes of common stock issued and outstanding immediately preceding December 31. The Company did not make any grants of purchase rights under the 2021 ESPP during the quarter ended September 30, 2022. A total of 7,229,799 shares of Class A common stock have been reserved for future issuance under the 2021 ESPP.

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

**Stock Option Activity**

Under the 2017 Plan, the Company had a call option to repurchase awards for cash from the plan participants upon termination of the participant's employment or consulting agreement (the "2017 Plan Call Option"). The options granted under the 2017 plan were accounted for as liability awards due to the 2017 Plan Call Option. The Company had a history of repurchase practice and the intention to repurchase the vested options. Therefore, the fair value of the liability awards was remeasured at each reporting period until the stockholder bears the risks and rewards of equity ownership for a reasonable period of time, which the Company concludes is at least six months.

Upon consummation of the Business Combination, the Company's Board of Directors waived the Company's right under the 2017 Plan Call Option to repurchase awards for cash from the plan participants upon termination of the participant's employment or consulting agreement. As such, the Company modified the liability awards to equity awards and reclassified the modification date fair value of the awards to stockholders' equity in the condensed consolidated financial statements as of July 22, 2021.

All stock options granted under the 2021 Plan are accounted for as equity awards.

The following summarizes the stock option activity, which reflects the conversion of the options granted under the 2017 Plan into awards with respect to the Company Class A common stock in connection with the consummation of the Business Combination (in thousands, except share and per share amounts):

	<b>Stock Options Outstanding</b>	<b>Weighted Average Exercise Price</b>
Balance at December 31, 2021	30,905,543	\$ 1.24
Options granted	13,347,197	2.28
Options exercised	(6,940,485)	0.32
Options forfeited or canceled	(4,957,961)	3.83
Balance at September 30, 2022	32,354,294	\$ 1.47
Options exercisable at September 30, 2022	18,514,946	\$ 0.82

As of September 30, 2022, unrecognized stock-based compensation cost related to the unvested portion of the Company's stock options was \$18.2 million, which is expected to be recognized on a graded-vesting basis over a weighted-average period of 1.77 years.

The fair value of the stock option awards for the period ended September 30, 2022 and September 30, 2021 were estimated using the Black-Scholes option pricing model with the following assumptions:

	<b>Nine months ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
Expected volatility	65.20%-90.00%	49.60%
Expected term (in years)	5.48-6.18	5.00
Risk-free interest rate	1.65%-3.38%	0.71%
Dividend yield	—	—
Fair value of Class A common stock	\$0.99-\$3.45	\$11.60

The Company estimated a volatility factor for the Company's options based on analysis of historical share prices of a peer group of public companies, the historical share prices of the Company, and the implied volatility of the Company's call options. The Company estimated the expected term of options granted using the "simplified method," which is the mid-point between the vesting date and the ending date of the contractual term. The Company did not rely on the historical holding periods of the Company's options due to the limited availability of exercise data. The Company used a risk-free interest rate based on the U.S. Treasury yield curve in effect for bonds with maturities consistent with the expected term of the option.

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

**Restricted Stock Units (RSUs)**

The Company issued time-based RSUs to employees under the 2021 Plan. The RSUs automatically convert to shares of Class A common stock on a one-for-one basis as the awards vest. The Company measures the value of RSUs at fair value based on the closing price of the underlying Class A common stock on the grant date. The RSUs granted generally vest over a four year vesting period from the grant date, however, certain grants include vesting term that begins vesting 12 months from the grant date. The following table summarizes the activity related to the Company's time-based RSUs:

	<b>Restricted Stock Units Outstanding</b>	<b>Weighted Average Grant Date Fair Value Per Unit</b>
Balance at December 31, 2021	12,589,558	\$ 7.64
Restricted Stock Units granted	18,129,226	\$ 2.44
Restricted Stock Units vested	(1,840,816)	\$ 6.14
Restricted Stock Units forfeited	(5,133,936)	\$ 6.13
Balance at September 30, 2022	23,744,032	\$ 4.11

Additionally, the Company issued 126,980 RSUs subject to both service and performance based vesting conditions to the Executive Chairman of the Company. The grant date was established during the second quarter period and vesting of the RSUs will be based on the achievement of performance goals established for calendar year 2022.

As of September 30, 2022, unrecognized stock-based compensation cost related to the unvested portion of the Company's RSUs was \$47.2 million, which is expected to be recognized on a graded-vesting basis over a weighted-average period of 1.81 years.

**Earn-out RSUs**

The grant date fair value determined for Triggering Event I, II and III was \$1.82, \$1.39 and \$0.94 per unit, respectively. Any re-allocated RSUs due to the Sema4 Legacy option holders' forfeiture activities during the three months ended September 30, 2022 were accounted for as new grants and the fair value determined for Triggering Event I, II and III was \$0.00, \$0.00 and \$0.00 per unit, respectively. Based on the grant date fair value, the Company expects to record total expense related to the earn-out RSU awards of \$0.9 million without considering the impact of the Sema4 Legacy option holders' forfeiture activities. The Company recognizes the stock-compensation cost over the longer of the derived service period or service period.

**Stock Appreciation Rights (SAR) Activity**

The Company historically granted SAR to one employee and one consultant with exercise condition of a liquidation event. As a result of the Business Combination, settlement of the outstanding vested SARs in exchange for a cash payment and to cancel the outstanding unvested SARs was agreed upon and an expense of \$3.8 million related to the vested SAR was recognized by the Company. There were no outstanding SARs as of September 30, 2022.

During the three and nine months ended September 30, 2022, the Company recorded a reversal of stock-based compensation of \$17.3 million and \$27.0 million, respectively due to forfeiture activities upon employee terminations. Stock-based compensation expense for all awards granted and outstanding is included within the condensed consolidated statements of operations and comprehensive loss as follows (in thousands):

	<b>Three months ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
Cost of services	\$ 1,477	\$ 1,779
Research and development	(8,164)	3,160
Selling and marketing	2,337	4,183
General and administrative	5,623	8,889
Total stock-based compensation expense	\$ 1,273	\$ 18,011

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

	Nine months ended September 30,	
	2022	2021
Cost of services	\$ 4,668	\$ 19,948
Research and development	2,692	40,977
Selling and marketing	6,647	23,936
General and administrative	27,546	97,593
Total stock-based compensation expense	<u>\$ 41,553</u>	<u>\$ 182,454</u>

**12. Income Taxes**

Income tax benefit for the nine months ended September 30, 2021 and 2022 was zero and \$49.1 million, respectively. Income taxes for these periods are recorded at the Company's estimated annual effective income tax rate, subject to adjustments for discrete events should they occur. The Company's estimated annual effective tax rate was 0.05% and 0.19% for the three and nine months ended September 30, 2022, respectively.

The difference between the Company's effective tax rates in 2022 and 2021 compared to the U.S. statutory tax rate of 21% is primarily due to changes in valuation allowances associated with the Company's assessment of the likelihood of the recoverability of deferred tax assets. The Company currently has valuation allowances against a significant portion of its deferred tax assets primary related to its net operating loss carryforwards and tax credit carryforwards.

In connection with the Company's acquisition of GeneDx, the Company recorded a deferred tax liability of \$51.8 million as part of the purchase price accounting. This deferred tax liability serves as a source of future taxable income to support a release of valuation allowance of \$48.6 million, which resulted in a deferred tax benefit recorded discretely in the second quarter of 2022.

**13. Net Income (loss) per Share**

Basic and diluted loss per share attributable to common stockholders was calculated as follows (amounts in thousands, except for share and per share amounts):

	Three months ended September 30,	
	2022	2021
<b>Numerator:</b>		
Net (loss) income attributable to common stockholders	\$ (77,581)	\$ 32,731
<b>Denominator:</b>		
Denominator for basic and diluted earnings per share-weighted-average common shares	380,764,176	185,680,394
Effect of dilutive securities:		
Employee stock options	—	24,650,552
Denominator for diluted earnings per share-adjusted weighted-average common shares	<u>380,764,176</u>	<u>210,330,946</u>
Basic earnings (loss) income per share	\$ (0.20)	\$ 0.18
Diluted earnings (loss) income per share	<u>\$ (0.20)</u>	<u>\$ 0.16</u>

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

	Nine months ended September 30,	
	2022	2021
<b>Numerator:</b>		
Net loss attributable to common stockholders	\$ (240,219)	\$ (205,205)
<b>Denominator:</b>		
Denominator for basic and diluted earnings per share-weighted-average common shares	321,461,266	63,121,738
Basic and diluted loss per share	\$ (0.75)	\$ (3.25)

As a result of the Business Combination Merger, the Company has retroactively adjusted the weighted-average number of shares of common stock outstanding prior to the Business Combination Merger by multiplying them by the conversion ratio of 123.8339 used to determine the number of shares of common stock into which they converted. The common stock issued as a result of the redeemable convertible preferred stock conversion upon closing of the Business Combination Merger was included in the basic and diluted earnings/(loss) per share calculation on a prospective basis.

Prior to the consummation of the Business Combination Merger, the Company applied the two-class method to calculate its basic and diluted net loss per share of common stock, as there were outstanding Class B common stock and redeemable convertible preferred stock that were participating securities. The two-class method is an earnings allocation formula that treats a participating security as having rights to earnings that otherwise would have been available to common stockholders. As the securities were all converted into Sema4 Holdings Class A common stock upon consummation of the Business Combination Merger, all outstanding Legacy Sema4 Class B common stock has been retroactively converted to the Sema4 Holdings Class A common stock.

The following tables summarize the outstanding shares of potentially dilutive securities that were excluded from the computation of diluted net loss per share attributable to common stockholders for the period presented because including them would have been anti-dilutive:

	As of September 30,	
	2022	2021
Outstanding options and RSUs to purchase Class A common stock	56,098,326	—
Outstanding warrants	21,994,972	21,994,972
Outstanding earn-out shares	17,568,125	16,331,812
Outstanding earn-out RSUs	1,453,451	—
Total	97,114,874	38,326,784

#### **14. Restructuring Costs**

During the nine months ended September 30, 2022, the Company's Compensation Committee of the Board of Directors approved by written consents dated February 17, 2022, May 2, 2022 and August 11, 2022 a restructuring plan which was executed by management and restructuring charges were incurred and recorded in connection therewith. These costs include severance packages offered to the employees impacted by the plan and third party consulting costs. Additionally, during the third quarter of 2022, the Board of Directors approved, by a written consent dated August 11, 2022, a restructuring plan that contemplates exiting the Company's somatic tumor testing business and closing the Company's laboratory in Branford, CT, by December 31, 2022. In connection with the plan, the Company is also eliminating approximately 250 positions, representing about 13% of its workforce, which, combined with the Company's prior reductions in force during 2022, will result in the elimination of approximately 30% of the roles from the Legacy

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

Sema4 business. The table below provides certain information concerning restructuring activity during the nine months ended September 30, 2022:

	Reserve Balance at December 31, 2021	Charged to Costs and Expenses	Payments and Other	Reserve Balance at September 30, 2022
Severance	—	12,532	(6,977)	5,555
Others	—	6,022	(1,782)	4,240
Total	—	18,554	(8,759)	9,795

The Company may incur additional expenses not currently contemplated due to events associated with the reduction in force. The charges that the Company expects to incur in connection with the reduction in force are estimates and subject to a number of assumptions, and actual results may differ materially.

**15. Supplemental Financial Information**

Accounts payable and accrued expenses consisted of the following (in thousands):

	As of September 30, 2022	As of December 31 2021
Accounts payable	\$ 40,122	\$ 44,681
Accrued purchases	26,147	19,731
Reserves for refunds to insurance carriers <sup>(1)</sup>	20,100	-
Other	515	38
Total	\$ 86,884	\$ 64,800

(1) During the third quarter of 2022, \$19.7 million of the reserve for refunds to insurance carriers was reclassified to other liabilities in the Condensed Consolidated Balance sheets as the Company anticipates that certain refunds are to be made quarterly over the next 4 years.

Other current liabilities consisted of the following (in thousands):

	As of September 30, 2022	As of December 31 2021
Accrued bonus	\$ 13,026	\$ 13,500
Accrued payroll	8,135	7,000
Accrued benefits	3,138	1,000
Accrued commissions	1,790	2,800
Indemnification liabilities	13,470	-
Current portion of the contingent consideration liabilities	19,890	-
Other	9,174	8,900
Total	\$ 68,623	\$ 33,300

**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

**16. Goodwill and intangible assets**

The changes in the carrying amounts of goodwill were as follows (in thousands):

Balance as of June 30, 2022	\$	181,184
Additions		284
Balance as of September 30, 2022	\$	181,468

The following table reflects the fair values and remaining useful lives of the acquired intangible assets identified based on the Company's preliminary purchase accounting assessments:

	April 29, 2022	September 30, 2022	Life (in Years)
Tradenames and trademarks	\$ 50,000	\$ 48,698	15.5
Developed technology	48,000	45,500	7.5
Customer relationships	98,000	95,958	19.5
	\$ 196,000	\$ 190,156	

Amortization expense for tradenames and trademarks and developed technology of \$3.8 million was recorded in general and administrative for the nine months ended September 30, 2022 within the condensed consolidated statements of operations and comprehensive loss. Amortization expense for customer relationships of \$2.0 million was recorded in selling and marketing for the nine months ended September 30, 2022 within the condensed consolidated statements of operations and comprehensive loss.

The following table summarizes the Company's estimated future amortization expense of intangible assets with finite lives as of September 30, 2022 (in thousands):

2022 (remainder of the year)	\$	3,505
2023		14,025
2024		14,025
2025		14,025
2026		14,025
Thereafter		130,551
Total estimated future amortization expense	\$	190,156

**17. Subsequent Events**

***Exit of Reproductive and Women's Health Business***

On November 14, 2022, the Company announced its plan to pursue a new strategic direction focused on the Company's pediatric and rare disease testing business coupled with the Company's Centrellis data platform. As part of the Company's strategic realignment, on November 11, 2022, the board of directors of the Company unanimously approved the Company's exit from the reproductive and women's health testing business, which includes carrier screening, noninvasive prenatal, and other ancillary reproductive testing offerings. The Company will cease accepting samples for these tests on December 14, 2022 and will begin notifying its customers impacted by this decision immediately. The Company expects to exit the operations of the reproductive and women's health testing services by the end of the first quarter of 2023. As a result of this announcement, the Company expects to eliminate approximately 500 positions, representing approximately 32.5% of its workforce, and to cease operations at its Stamford, CT laboratory. The Company's go-forward testing services will be consolidated and performed out of the Company's Gaithersburg, MD laboratory which was primarily used for the Company's pediatric and rare disease testing offered by GeneDx. The financial impact of this exit on the Company's consolidated financial statements is currently not able to be estimated due primarily to the proximity



**Sema4 Holdings Corp.**

**Notes to Unaudited Condensed Consolidated Financial Statements**

of the issuance date of this Quarterly Report to the announcement date. However, the Company anticipates that material cash and non-cash charges will be incurred and recorded in the future reporting periods.

***DECD Loan***

As described in Note 8, the Company has received loan funding commitment from DECD pursuant to the DECD Loan Agreement, which was assigned to the Company by ISMMS. On October 7, 2022, the Company received correspondence from the DECD requesting that the Company pay \$1 million towards the \$11 million outstanding principal balance by December 31, 2022. This request is in lieu of the Company continuing to provide a security interest in certain machinery and equipment the Company acquired from ISMMS. The machinery and equipment are primarily located in the Company's laboratory in Branford, CT, which the Company expects to close following exit of the somatic tumor testing business by December 31, 2022. The Company's somatic testing business was fully operating as of September 30, 2022. The Company expects to pay the requested amount by December 31, 2022.

## Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

*You should read the following discussion and analysis of our financial condition and results of operations together with our unaudited condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report and our audited financial statements for the year ended December 31, 2021 and the related notes in our Annual Report on Form 10-K for the year ended December 31, 2021. This discussion contains forward-looking statements and involves numerous risks and uncertainties. Actual results may differ materially from the results described in or implied by the forward-looking statements. You should carefully read the section entitled "Risk Factors" to gain an understanding of the important factors that could cause actual results to differ materially from these forward-looking statements.*

### Overview

We are a leading health intelligence company—one that can unlock insights from data, leading to healthier lives and a healthier society. We are focused on delivering a portfolio of genomic and data solutions to guide patients through their family health journey. That includes family planning, delivery, pediatrics, hereditary cancer screening, and rare disorders for children and adults.

On June 1, 2017, we signed a contribution and funding agreement and other agreements with Icahn School of Medicine at Mount Sinai, or ISMMS, whereby ISMMS contributed certain assets and liabilities related to our operations, provided certain services to us, and also committed to funding us up to \$55.0 million in future capital contributions in exchange for equity in Legacy Sema4, of which \$55.0 million was drawn as of December 31, 2019. Following the transaction, we commenced operations as a commercial entity that could effectively engage diverse patient populations and health care institutions at scale.

We have since established a market leading health intelligence platform, accelerating the use of genomics and leveraging large-scale clinical data to enhance the standard of care through extensive precision medicine solutions. Our business was further strengthened in April 2022 by the acquisition of GeneDx, a leader in genomic testing and analysis for rare disorders. We believe the transaction positions Sema4 as one of the largest and most advanced providers of genomic testing in the U.S. and further strengthens our health information database to transform patient care and improve therapeutic development. We now maintain a database that includes patient data available for research on approximately 12 million patients from a number of public and proprietary sources. More than five million patients are available with clinical data through our partnership health systems and genomic testing solutions that may include structured and unstructured data available for deeper curation to construct more comprehensive natural histories of patients.

Currently, we derive the majority of our revenue from our diagnostic test solutions. Our diagnostic business generates revenue and engages with healthcare professionals working with patients primarily through reproductive and women's health, pediatric, hereditary cancer screening and rare disease for children and adults.

Our reproductive and women's health solutions sequence and analyze an industry-leading number of genes and use interpretive information tools to translate raw sequencing and clinical data efficiently and accurately into digestible clinical reports that guide decision-making by patients and physicians. As described below, we have announced plans to exit this business. The reproductive and women's health solutions also included Hereditary Cancer genetic testing, which determines if a patient carries an inherited genetic change that increases the risk of cancer or informs on cancer treatment. We will continue to offer this testing and the testing will be performed out of our existing GeneDx laboratory facility in Gaithersburg, MD.

Our pediatric and rare disease offerings through GeneDx include testing solutions for children, both inpatient in the neonatal intensive care unit (NICU) and pediatric intensive care unit (PICU) and outpatient for developmental delay and neurodevelopmental delay as well as rare disease for children and adults. We have the industry-leading exome, which includes comprehensive CNV (copy number variation) analysis and have an extensive database of over 400,000 clinically sequenced exomes and more than two million structured phenotypes.

On November 14, 2022, we announced our plan to pursue a new strategic direction focused on our pediatric and rare disease testing business coupled with our Centrellis data platform. As part of our strategic realignment, on November 11, 2022, our board of directors unanimously approved our exit from the reproductive and women's health testing business, which includes carrier screening, noninvasive prenatal, and other ancillary reproductive testing offerings. The operations of these testing services are expected to cease by the end of the first quarter of 2023. This business was the core business of Sema4 prior to the acquisition of GeneDx. After a thorough review of a number of factors including the competitive landscape, recent shifts in payor coverage and reimbursement, declining average selling prices, and cost structure, and consideration of existing capital markets constraints and the macroeconomic climate, we have concluded that this business

is currently unsustainable and cannot be restructured in a way that will allow us to achieve profitable growth and cash preservation. We also engaged a financial advisor in an effort to sell this business as a going concern through a targeted auction process, but did not receive any final proposals and were thus unable to complete a sale. Further, as announced in August 2022, we plan to discontinue our somatic tumor profiling business by December 31, 2022. This business represents less than 1% of our revenue and approximately \$35 million of our annual expenses. We expect that exiting this business will result in significant cost savings during the second half of 2022 and 2023, and will positively impact our gross margins. Additionally, beginning in May of 2020 through March 31, 2022, we provided diagnostic testing services to identify the presence of COVID-19.

We have expanded beyond diagnostic testing to enter into service agreements with third parties to provide diagnostic testing, research, and related data aggregation reporting services. We have established and continue to seek strategic relationships with pharmaceutical and biotech, or Biopharma, companies to enable innovation across the entire drug lifecycle, from next-generation drug discovery and development, to post-market efficacy surveillance, to informing on bioavailability, toxicity, tolerability, and other features critical to drug development.

## **Factors Affecting Our Performance**

We believe several important factors have impacted, and will continue to impact, our performance and results of operations. While each of these areas presents significant opportunities for us, they also pose significant risks and challenges that we must address. See the section titled “*Item 1A. Risk Factors*” for more information.

### ***Number of resulted tests***

A test is resulted once the appropriate workflow is completed and details are provided to the ordered patients or healthcare professional for reviews, which corresponds to the timing of our revenue recognition. We believe the number of resulted tests in any period is important and useful to our investors because it directly correlates with long-term patient relationships and the size of our genomic database.

### ***Success obtaining and maintaining reimbursement***

Our ability to increase the number of billable tests and our revenue therefrom will depend on our success in achieving reimbursement for our tests from third-party payors. Reimbursement by a payor may depend on several factors, including a payor’s determination that a test is appropriate, medically necessary, cost-effective, and has received prior authorization. Since each payor makes its own decision as to whether to establish a policy or enter into a contract to provide coverage for our tests, as well as the amount it will reimburse us for a test, seeking these approvals is a time-consuming and costly process.

In cases where we or our partners have established reimbursement rates with third-party payors, we face additional challenges in complying with their procedural requirements for reimbursement. These requirements often vary from payor to payor and are reassessed by third-party payors regularly. As a result, in the past we have needed additional time and resources to comply with the requirements.

Third-party payors may decide to deny payment or seek to recoup payments for tests performed by us that they contend were improperly billed, not medically necessary or against their coverage determinations, or for which they believe they have otherwise overpaid. As a result, we may be required to refund payments already received, and our revenues may be subject to retroactive adjustment as a result of these factors among others. In particular, we are currently engaged in discussions with one of our third-party payors regarding certain overpayments we allegedly received from the payor for services that the payor alleges are not covered by, or were not otherwise properly billed to, the payor. As a result of this matter and other potential settlements with payors, we have established certain liabilities and reversed certain of our previously recorded revenue. We intend to seek to resolve this matter and any other recovery or recoupment claims in a mutually satisfactory manner, although it is possible that any such settlement may also result in lowered contracted reimbursement rates for our tests. For more information regarding this matter, see Note 4, “Revenue Recognition” to our unaudited condensed consolidated financial statements included within this Quarterly Report.

We expect to continue to focus our resources on increasing the adoption of, and expanding coverage and reimbursement for, our current and any future tests we may develop or acquire. If we fail to expand and maintain broad adoption of, and coverage and reimbursement for, our tests, our ability to generate revenue and our future business prospects may be adversely affected.

### ***Ability to lower the costs associated with performing our tests***

Reducing the costs associated with performing our diagnostic tests is both our focus and a strategic objective. We source, and will continue to source, components of our diagnostic testing workflows from third parties. We also rely upon third-party service providers for data storage and workflow management.

### ***Increasing adoption of our services by existing and new customers***

Our performance depends on our ability to retain and broaden the adoption of our services with existing customers as well as our ability to attract new customers. Our success in retaining and gaining new customers is dependent on the market's confidence in our services and the willingness of customers to continue to seek more comprehensive and integrated genomic and clinical data insights.

### ***Investment in platform innovation to support commercial growth***

We are seeking to leverage and deploy our platforms to develop a pipeline of future disease-specific research and diagnostic and therapeutic products and services. We have limited experience in the development or commercialization of clinical or research products in connection with our database and platform.

We operate in a rapidly evolving and highly competitive industry. Our business faces changing technologies, shifting provider and patient needs, and frequent introductions of rival products and services. To compete successfully, we must accurately anticipate technology developments and deliver innovative, relevant, and useful products, services, and technologies on time. As our business evolves, the competitive pressure to innovate will encompass a wider range of products and services. We must continue to invest significant resources in research and development, including investments through acquisitions and partnerships. These investments are critical to the enhancement of our current diagnostics and health information and data science technologies from which existing and new service offerings are derived.

We expect to incur significant expenses to advance these development efforts, but they may not be successful. New potential services may fail at any stage of development and, if we determine that any of our current or future services are unlikely to succeed, we may abandon them without any return on our investment. If we are unsuccessful in developing additional services, our growth potential may be impaired.

### **Key Performance Indicators**

We use the following key financial and operating metrics to evaluate our business and operations, measure our performance, identify trends affecting our business, project our future performance, and make strategic decisions. These key financial and operating metrics should be read in conjunction with the following discussion of our results of operations and financial condition together with our unaudited condensed consolidated financial statements and the related notes and other financial information included elsewhere in this report.

The principal focus of our commercial operations is to offer our diagnostic tests through both our direct sales force and laboratory distribution partners. Test volume correlates with genomic database size and long-term patient relationships. Thus, test volumes drive database diversity and enable potential identification of variants of unknown significance and population-specific insights. The number of tests resulted is a key indicator that we use to assess the operational efficiency of our business. Once the appropriate workflow is completed, the test is resulted and details are provided to ordered patients or healthcare professionals for reviews.

During the nine months ended September 30, 2022, we resulted 402,766 tests in our laboratories, 73,408 tests of which were for COVID-19, compared to the nine months ended September 30, 2021, in which we resulted 481,896 tests in our laboratories, 272,973 of which were for COVID-19. This 58% increase in resulted volumes, excluding COVID-19 tests volumes, is primarily a result of the inclusion of volumes from GeneDx's laboratory following the closing of the Acquisition of GeneDx as further discussed below.

### **COVID-19 Impact**

During 2022, our test volumes improved to what would, at this time, be considered normalized market conditions. A COVID-19 resurgence in the United States could however have a material impact on our results of operations, cash flows, and financial condition.

In March 2020, the Coronavirus Aid, Relief and Economic Security Act (“CARES Act”), was signed into law which was a stimulus bill that, among other things, provided assistance to qualifying businesses and individuals and included funding for the healthcare system. We received \$5.4 million in 2020 as part of the stimulus, comprised of \$2.6 million received under the Provider Relief Fund (the “PRF”), and \$2.8 million received under the Employee Retention Credit (the “ERC”). In 2021, we received an additional \$5.6 million under the PRF.

Funds provided under the PRF to healthcare providers are not loans and will not be required to be repaid; however, as a condition to receiving these payments, providers must agree to certain terms and conditions and submit sufficient documentation demonstrating that the funds are being used for healthcare-related expenses or lost revenue attributable to the COVID-19 pandemic. We have concluded it is probable that all terms and conditions associated with the funds received under the PRF distribution have been met. As a result, we recorded the funds received under the PRF in other income in the statements of operations and comprehensive loss during the periods in which we received the funds.

Funds provided under the ERC are refundable tax credits for 50% of qualified wages paid to employees during the pandemic. A company is eligible for the ERC if it has not received a Paycheck Protection Program loan under the CARES Act and (1) its operations have been fully or partially suspended because of COVID-19 or (2) its gross receipts in a calendar quarter in 2020 declined by more than 50% from the same period in 2019. At the time of applying for the ERC, we concluded that it was reasonably possible the eligibility requirements would be met; however, due to a change in circumstances, we are re-evaluating our position. As such, we deferred the recognition of the funds received under the ERC and recorded the proceeds in other current liabilities on the unaudited condensed consolidated balance sheets.

### **Acquisition of GeneDx**

In January 2022, we and our wholly-owned subsidiaries, Orion Merger Sub I, Inc., or Merger Sub I, and Orion Merger Sub II, LLC, or Merger Sub II, entered into an Agreement and Plan of Merger and Reorganization (which we refer to, as amended, as the “Acquisition Merger Agreement”), with GeneDx, Inc., a New Jersey corporation, or GeneDx, and a wholly-owned subsidiary of OPKO Health, Inc., or OPKO, GeneDx Holding 2, Inc., or Holdco, and OPKO to acquire 100% of GeneDx (which we refer to as the “Acquisition”). Subject to the terms and conditions of the Acquisition Merger Agreement, we agreed to pay consideration to OPKO for the Acquisition of (i) \$150 million in cash at the closing of the Acquisition, subject to certain adjustments as provided in the Acquisition Merger Agreement, (ii) 80 million shares of our Class A common stock to be issued at the closing of the Acquisition and (iii) up to \$150 million payable following the closing of the Acquisition, if certain revenue-based milestones were achieved for each of the fiscal years ending December 31, 2022 and December 31, 2023. These milestone payments, if and to the extent earned under the terms of the Acquisition Merger Agreement, will be satisfied through the payment and/or issuance of a combination of cash and shares of our Class A common stock (valued at \$4.86 per share, subject to adjustment for stock splits and similar changes), with such mix to be determined in our sole discretion.

The Acquisition closed on April 29, 2022. Our net loss for the three and nine months ended September 30, 2022 includes the results of operations of GeneDx from the date of acquisition. We expect to leverage the combined health information database of Sema4 and GeneDx to partner with additional health systems and biopharma companies to transform patient care and therapeutic development and enable precision medicine for all.

Concurrently with the execution of the Acquisition Merger Agreement, we entered into subscription agreements with certain institutional investors, pursuant to, and on the terms and subject to the conditions of which, these investors collectively subscribed for 50 million shares of our Class A common stock for an aggregate purchase price equal to \$200 million (which we refer to as the “Acquisition PIPE Investment”). The Acquisition PIPE Investment was consummated substantially concurrently with the closing of the Acquisition.

### **Russia and Ukraine Conflict**

During the first quarter of 2022, Russia commenced a military invasion of Ukraine, and the ensuing conflict has created disruption in the region and around the world. Sema4 continues to utilize Ukraine-based contractors as of September 30, 2022. To date, this has not had a material effect on our operations, and we have taken additional measures in securing and monitoring data and remote access.

We continue to closely monitor the ongoing conflict and related sanctions, which could impact our business, financial results and results of operations in the future.

## Components of Results of Operations

### *Revenue*

We derive the majority of our revenue from genetic and genomic diagnostic testing services primarily relating to reproductive and women's health, pediatrics, hereditary cancer screening and rare disease in children and adults. We also recognize revenue from collaboration service agreements with Biopharma companies and other third parties pursuant to which we provide diagnostic testing and related data aggregation reporting services. As discussed above, we discontinued COVID-19 testing services as of March 31, 2022 and no longer provide such testing services. We also intend to discontinue our somatic tumor profiling business by December 31, 2022 and cease the operations of our reproductive and women's health testing services by the end of the first quarter of 2023.

We recognize revenue when control of the promised goods or services is transferred to the customer in an amount that reflects the consideration which we expect to be entitled to in exchange for those goods or services.

### *Diagnostic Test Revenue*

We primarily generate revenue from performing diagnostic testing services for three groups of customers: healthcare professionals working with patients with third-party insurance coverage or without third-party insurance coverage, institutional clients such as hospitals, clinics, state governments and reference laboratories, or self-pay patients. Customers are billed upon delivery of test results. The amount of revenue recognized for diagnostic testing services depends on a number of factors, such as contracted rates with our customers and third-party insurance providers, insurance reimbursement policies, payor mix, historical collection experience, price concessions and other business and economic conditions and trends. To date, the majority of our diagnostic test revenue has been earned from orders received for patients with third-party insurance coverage.

Our ability to increase our diagnostic test revenue will depend on our ability to increase our market penetration, obtain contracted reimbursement coverage from third-party payors, enter into contracts with institutions, and increase our reimbursement rate for tests performed.

### *Other Revenue*

We generate revenue from providing diagnostic testing and related data aggregation reporting services under both short-term and long-term project-based collaboration and service agreements with third parties. The terms of these contracts generally include non-refundable upfront payments, which we record as contract liabilities, and variable payments based upon the achievement of certain milestones during the contract term.

With respect to existing collaboration and service agreements, our revenue may fluctuate period to period due to the pattern in which we may deliver our services, our ability to achieve milestones, the timing of costs incurred, changes in estimates of total anticipated costs that we expect to incur during the contract period, and other events that may not be within our control. Our ability to increase our revenue will depend on our ability to enter into contracts with third-party partners.

### *Cost of Services*

The cost of services reflect the aggregate costs incurred in performing services. These costs include expenses for reagents and laboratory supplies, personnel-related expenses (comprising salaries and benefits) and stock-based compensation for employees directly involved in revenue generating activities, shipping and handling fees, costs of third-party reference lab testing and phlebotomy services and allocated genetic counseling, facility and IT costs associated with delivery services. Allocated costs include depreciation of laboratory equipment, facility occupancy, and information technology costs. The cost of services are recorded as the services are performed.

We expect the cost of services to generally increase in line with the anticipated growth in diagnostic testing volume and services we provide under our collaboration service agreements. However, we expect the cost per test to decrease over the long term due to the efficiencies we may gain from improved utilization of our laboratory capacity, automation, and other value engineering initiatives. These expected reductions may be offset by new tests which often have a higher cost per test during the introductory phases before we can gain efficiencies. The cost per test may fluctuate from period to period.

**Research and Development Expenses**

Research and development expenses represent costs incurred to develop our technology and future test offerings. These costs are principally associated with our efforts to develop the software we use to analyze data and process customer orders. These costs primarily consist of personnel-related expenses (comprising salaries and benefits), stock-based compensation for employees performing research and development, innovation and product development activities, costs of reagents and laboratory supplies, costs of consultants and third-party services, equipment and related depreciation expenses, non-capitalizable software development costs, research funding to our research partners as part of research and development agreements and allocated facility and information technology costs associated with genomics medical research. Research and development costs are generally expensed as incurred and certain non-refundable advanced payments provided to our research partners are expensed as the related activities are performed.

We generally expect our research and development expenses to continue to increase as we innovate and expand the application of our platforms. However, we expect research and development expenses to decrease as a percentage of revenue in the long term, although the percentage may fluctuate from period to period due to the timing and extent of our development and commercialization efforts and fluctuations in our compensation-related charges.

**Selling and Marketing Expenses**

Selling and marketing expenses primarily consist of personnel-related expenses (comprising salaries and benefits) and stock-based compensation for employees performing commercial sales, account management, marketing, and allocation of genetic counseling services related to medical education. Selling and marketing costs are expensed as incurred.

We generally expect our selling and marketing expenses will continue to increase in absolute dollars as we expand our commercial sales and marketing and counseling teams and increase marketing activities. However, we expect selling and marketing expenses to decrease as a percentage of revenue in the long term, subject to fluctuations from period to period due to the timing and magnitude of these expenses.

**General and Administrative Expenses**

General and administrative expenses primarily consist of personnel-related expenses (comprising salaries and benefits) and stock-based compensation for employees in executive leadership, legal, finance and accounting, human resources, information technology, strategy and other administrative functions. In addition, these expenses include office occupancy and information technology costs. General and administrative costs are expensed as incurred.

We generally expect our general and administrative expenses to continue to increase in absolute dollars as we increase headcount and incur costs associated with operating as a public company, including expenses related to legal, accounting, and regulatory matters, maintaining compliance with requirements of Nasdaq and of the SEC, director and officer insurance premiums and investor relations. We expect these expenses to decrease as a percentage of revenue in the long term as revenue increases, although the percentage may fluctuate from period to period due to fluctuations in our compensation-related charges.

**Related Party Expenses**

Related party expenses consist of amounts due to ISMMS for expenses under our Transition Services Agreement with ISMMS, or the ISMMS TSA, which expired at the end of the first quarter of 2021, and other service agreements. In addition, GeneDx and OPKO entered into a Transition Services Agreement dated as of April 29, 2022, or the OPKO TSA, pursuant to which OPKO has agreed to provide, at cost, certain services in support of the Acquisition of the GeneDx business through December 31, 2022, subject to certain limited exceptions, in order to facilitate the transactions contemplated by the Acquisition Merger Agreement. Additional information can be found in the audited financial statements in Note 7, “*Related Party Transactions*” included within our Annual Report on Form 10-K for the year ended December 31, 2021, and our unaudited condensed consolidated financial statements in Note 7, “*Related Party Transactions*” included within this Quarterly Report.

We generally expect related party expenses to decrease as we establish our own internal and external resources to fulfill the administrative and other services we have historically procured from ISMMS and following the expiration of the OPKO TSA.

**Interest Income**

Interest income consists of interest earned on money market funds.

### Interest Expense

Interest expense consists of interest costs incurred related to our finance leases and our long-term debt arrangements, including unused line fee and the amortization of deferred transaction costs related to the loan and security agreement entered into with Silicon Valley Bank that provides a \$125 million revolving credit facility described elsewhere in this report. No amounts have been drawn under the revolving credit facility as of September 30, 2022.

### Other Income

Other income consists of funding received under the CARES Act. We recognized \$5.6 million of additional funding received under the CARES Act during the first quarter of 2021 and the amount is included in other income for the nine months ended September 30, 2021. This was partially offset by a loss from extinguishment of debt of \$0.3 million and refund payment of \$0.2 million.

### Comparison of the three months ended September 30, 2022 and 2021

The following table sets forth our results of operations for the periods presented:

	Three months ended September 30,	
	2022	2021 (1)
	(in thousands)	
Revenue		
Diagnostic test revenue	\$ 81,490	\$ 41,410
Other revenue	1,744	1,768
Total revenue	83,234	43,178
Cost of services	69,685	51,487
Gross profit (loss)	13,549	(8,309)
Research and development	13,354	17,831
Selling and marketing	37,451	28,152
General and administrative	51,863	33,125
Related party expenses	1,697	847
Loss from operations	(90,816)	(88,264)
Other income (expense), net:		
Change in fair market value of warrant and earn-out contingent liabilities	12,978	122,171
Interest income	996	27
Interest expense	(806)	(683)
Other income	2	(520)
Total other income (expense), net	13,170	120,995
(Loss) income before income taxes	(77,646)	32,731
Income tax benefit	65	—
Net (loss) income and comprehensive (loss) income	\$ (77,581)	\$ 32,731

(1) As previously disclosed in Note 2, “Summary of Significant Accounting Policies” to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2021, certain adjustments were made to reclassify certain expenses between cost of services and operating expenses. The adjustments are reflected as disclosed.

### Revenue



	Three months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Diagnostic test revenue	\$ 81,490	\$ 41,410	\$ 40,080	97 %
Other revenue	1,744	1,768	(24)	(1)%
Total revenue	\$ 83,234	\$ 43,178	\$ 40,056	93 %

Total revenue increased by \$40.0 million, or 93%, to \$83.2 million for the three months ended September 30, 2022, from \$43.2 million for the three months ended September 30, 2021.

Diagnostic test revenue period over period overall increased by \$40.1 million, or 97%, to \$81.5 million for the three months ended September 30, 2022, from \$41.4 million for the three months ended September 30, 2021. The increase was primarily attributable to inclusion of GeneDx revenue of \$45.6 million, partially offset by a reduction in somatic oncology testing revenue and COVID-19 testing revenues discontinued in 2022 by \$4.4 million.

Other revenue decreased by a nominal amount for the three months ended September 30, 2022, from the three months ended September 30, 2021.

### Cost of Services

	Three months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Cost of services	\$ 69,685	\$ 51,487	\$ 18,198	35 %

Cost of services increased by \$18.2 million, or 35%, to \$69.7 million for the three months ended September 30, 2022, from \$51.5 million for the three months ended September 30, 2021. The increase was primarily driven by inclusion of \$26.0 million of GeneDx cost of services. This was offset by a \$3.6 million decrease in costs incurred performing tests for reproductive and women's health as a result of cost efficiency gained on a per test basis. Furthermore, there was a decrease of \$3.7 million in other compensation expenses and a \$0.6 million decrease in occupancy costs.

### Research and Development

	Three months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Research and development	\$ 13,354	\$ 17,831	\$ (4,477)	(25)%

Research and development expense decreased by \$4.5 million, or 25%, to \$13.4 million for the three months ended September 30, 2022, from \$17.8 million for the three months ended September 30, 2021. The decrease was primarily attributable to a \$11.3 million decrease in stock-based compensation expense primarily due to the reversal of stock-based compensation expense based on forfeiture of unvested equity awards upon termination of our executives. The decrease was partially offset by the inclusion of \$4.6 million of GeneDx costs and restructuring costs of \$1.4 million as well as a \$1.0 million increase in consultant and other outside services for product development related activities.

### Selling and Marketing

	Three months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Selling and marketing	\$ 37,451	\$ 28,152	\$ 9,299	33 %

Selling and marketing expense increased by \$9.3 million, or 33%, to \$37.5 million for the three months ended September 30, 2022, from \$28.2 million for the three months ended September 30, 2021. The increase was primarily attributable to the inclusion of \$14.1 million of GeneDx costs, \$1.2 million of amortization expenses due to customer relationship intangible assets created in connection with the Acquisition, restructuring costs of \$1.9 million and an increase of \$0.6 million for business travel and business expenses due to the lifting of COVID-19 travel restrictions. These increases were offset by a \$6.9 million decrease in other compensation costs and a \$1.9 million decrease in stock-based compensation expense due primarily to forfeiture of unvested equity awards upon termination of our executives and employees.

### General and Administrative

	Three months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
(dollars in thousands)				
General and administrative	\$ 51,863	\$ 33,125	\$ 18,738	57 %

General and administrative expense increased by \$18.7 million, or 57%, to \$51.9 million for the three months ended September 30, 2022, from \$33.1 million for the three months ended September 30, 2021. The increase was primarily attributable to the inclusion of \$9.0 million of GeneDx costs and \$2.3 million of amortization expenses due to developed technology and trade name and trademarks intangible assets created in connection with the Acquisition. Restructuring costs and rental vehicles costs also increased by \$4.3 million and \$2.3 million, respectively. Information technology related expenses increased by \$2.9 million due to increased cloud storage requirements and other compensation expenses increased by \$2.0 million. These increases were partially offset by a decrease in stock-based compensation expense of \$3.7 million primarily due to the reversal of stock-based compensation expense based on forfeiture of unvested equity awards upon termination of our executives and employees.

### Related Party Expenses

	Three months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
(dollars in thousands)				
Related party expenses	\$ 1,697	\$ 847	\$ 850	100 %

Related party expenses increased by \$0.9 million, or 100%, to \$1.7 million for the three months ended September 30, 2022, from \$0.9 million for the three months ended September 30, 2021. The increase was primarily attributable to fees related to support certain services pursuant to the TSA with OPKO as a result of the Acquisition of GeneDx and an increase in information technology related services provided by ISMMS.

### Interest Income

	Three months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
(dollars in thousands)				
Interest income	\$ 996	\$ 27	\$ 969	3589 %

Interest income increased by \$1.0 million, or 3589%, to \$1.0 million for the three months ended September 30, 2022, from a nominal amount for the three months ended September 30, 2021. The increase was due to increases in the average cash balances held in our interest-bearing and money market deposit accounts and increases in interest rates.

## Interest Expense

	Three months ended September 30,		Change	
			2021 to 2022	
	2022	2021	\$	%
	(dollars in thousands)			
Interest expense	\$ (806)	\$ (683)	\$ (123)	18 %

Interest expense increased by a nominal amount for the three months ended September 30, 2022, from the three months ended September 30, 2021.

## Other Income (Expense)

	Three months ended September 30,		Change	
			2021 to 2022	
	2022	2021	\$	%
	(dollars in thousands)			
Other income	\$ 2	\$ (520)	\$ 522	(100)%

Other expense decreased by \$0.5 million, or 100%, to a nominal amount for the three months ended September 30, 2022, from \$0.5 million for the three months ended September 30, 2021. The decrease was primarily due to a loss incurred and recorded for \$0.3 million from early payment penalties recognized upon extinguishment of debt in the prior year.

## Comparison of the nine months ended September 30, 2022 and 2021

The following table sets forth our results of operations for the periods presented:

	Nine months ended September 30,	
	2022	2021 (1)
	(in thousands)	
Revenue		
Diagnostic test revenue	\$ 167,989	\$ 148,973
Other revenue	5,355	5,421
Total revenue	173,344	154,394
Cost of services	183,768	168,190
Gross profit (loss)	(10,424)	(13,796)
Research and development	61,837	82,916
Selling and marketing	103,116	82,092
General and administrative	162,681	148,033
Related party expenses	4,712	3,532
Loss from operations	(342,770)	(330,369)
Other income (expense), net:		
Change in fair market value of warrant and earn-out contingent liabilities	54,350	122,171
Interest income	1,405	57
Interest expense	(2,404)	(2,128)
Other income	58	5,064
Total other income (expense), net	53,409	125,164
Loss before income taxes	(289,361)	(205,205)
Income tax benefit	49,142	—
Net loss and comprehensive loss	\$ (240,219)	\$ (205,205)

(1) As previously disclosed in Note 2, “Summary of Significant Accounting Policies” to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2021, certain adjustments were made to reclassify certain expenses between cost of services and operating expenses. The adjustments are reflected as disclosed.

## Revenue

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Diagnostic test revenue	\$ 167,989	\$ 148,973	\$ 19,016	13 %
Other revenue	5,355	5,421	(66)	(1)%
Total revenue	\$ 173,344	\$ 154,394	\$ 18,950	12 %

Total revenue increased by \$19.0 million, or 12%, to \$173.3 million for the nine months ended September 30, 2022, from \$154.4 million for the nine months ended September 30, 2021.

Diagnostic test revenue period over period overall increased by \$19.0 million, or 13%, to \$168.0 million for the nine months ended September 30, 2022, from \$149.0 million for the nine months ended September 30, 2021. The increase was primarily attributable to inclusion of GeneDx revenue of \$71.7 million due to the Acquisition of GeneDx and its revenue generated for the period from May through September 2022. This increase was offset by a reversal of revenue recorded primarily in the second quarter of 2022 by \$30.1 million related to certain third-party payor reserves established during the second quarter of 2022, the majority of which are related to periods prior to the second quarter of 2022. This reversal was primarily attributable to declines of average reimbursement rates in our reproductive and women's health testing services. Additionally, the increase was further offset by \$19.9 million decrease in COVID-19 testing revenues discontinued in 2022.

Other revenue decreased by a nominal amount for the nine months ended September 30, 2022, from the nine months ended September 30, 2021.

## Cost of Services

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Cost of services	\$ 183,768	\$ 168,190	\$ 15,578	9 %

Cost of services increased by \$15.6 million, or 9%, to \$183.8 million for the nine months ended September 30, 2022, from \$168.2 million for the nine months ended September 30, 2021. The increase was primarily attributable to inclusion of GeneDx cost of services of \$42.5 million, which was offset by a decrease in stock-based compensation expense of \$15.6 million due to the higher expense recorded in the nine months ended September 30, 2021 as a result of the increased fair value of the awards and related mark-to-market fair value adjustment recorded under liability accounting. There was also a decrease of \$5.4 million outside labor costs as the need for temporary hires contracted to perform COVID-19 testing activities was no longer required and a decrease of \$5.1 million was due to other compensation expenses. Depreciation expense and occupancy costs also decreased by \$0.3 million and \$0.6 million, respectively.

## Research and Development

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Research and development	\$ 61,837	\$ 82,916	\$ (21,079)	(25)%

Research and development expense decreased by \$21.1 million, or 25%, to \$61.8 million for the nine months ended September 30, 2022, from \$82.9 million for the nine months ended September 30, 2021. The decrease was primarily attributable to a \$38.3 million decrease in stock-based compensation expense due to the higher expense recorded in the nine months ended September 30, 2021 as a result of the increased fair value of the awards and related mark-to-market fair value adjustment recorded under liability accounting and a decrease in reagents and laboratory supplies for research and

development activities of \$2.5 million which was partially offset by the inclusion of \$7.7 million of GeneDx costs and an increase in other compensation expenses of \$5.2 million driven by the product development department. Consultant and other outside services for product development related activities and restructuring expenses also increased by \$2.7 million and \$2.4 million, respectively. We implemented multiple restructuring activities in 2022. There was also an increase in depreciation expense of \$1.0 million and an increase in information technology related expenses of \$0.4 million.

### ***Selling and Marketing***

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Selling and marketing	\$ 103,116	\$ 82,092	\$ 21,024	26 %

Selling and marketing expense increased by \$21.0 million, or 26%, to \$103.1 million for the nine months ended September 30, 2022, from \$82.1 million for the nine months ended September 30, 2021. The increase was primarily attributable to the inclusion of \$21.1 million of GeneDx costs and \$2.0 million of amortization expenses due to customer relationship intangible assets created in connection with the Acquisition. Restructuring expenses also increased by \$4.5 million due to restructuring activities implemented in 2022 and an additional \$4.7 million increase was due to other compensation expenses. Additionally, there was an increase of \$1.8 million for business travel and business expenses due to the lifting of COVID-19 travel restrictions, an increase of \$1.7 million in consulting service expenses to support revenue cycle transformation initiatives, an increase of \$1.2 million in sponsored research, an increase of \$0.9 million for other lab services for genetic counseling related to medical education, and an increase of \$0.8 million in information technology-related expenses. These increases were offset by a decrease of \$17.4 million in stock-based compensation expense primarily due to the increased fair value of the awards and related mark-to-market fair value adjustment recorded under liability accounting in 2021.

### ***General and Administrative***

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
General and administrative	\$ 162,681	\$ 148,033	\$ 14,648	10 %

General and administrative expense increased by \$14.6 million, or 10%, to \$162.7 million for the nine months ended September 30, 2022, from \$148.0 million for the nine months ended September 30, 2021. The increase was primarily attributable to an increase of \$19.5 million in other compensation expenses driven by an increase in functional headcount mid-late 2021, the inclusion of \$17.3 million of GeneDx costs, and \$3.8 million of amortization expenses due to amortization expenses of developed technology and trade name and trademark intangible assets created in connection with the Acquisition. Restructuring costs also increased by \$9.9 million due to restructuring activities implemented in 2022 and an increase of \$18.2 million was due primarily to professional service costs incurred in connection with the Acquisition transaction, which include due diligence, legal and business integration costs and other accounting and legal expenses. Information technology related expenses increased by \$8.6 million which is due to increased cloud storage requirements and insurance expenses also increased by \$3.6 million primarily due to the commencement of certain insurance policies. Rental vehicle expenses and depreciation expenses also increased by \$2.3 million and \$1.0 million, respectively. Additionally, there was an increase in state income tax and business travel expenses by \$1.0 million and \$0.5 million, respectively. These increases were offset by a \$71.2 million decrease in stock-based compensation expense due to the higher expense recorded in the first quarter of 2021 as a result of the increased fair value of the awards and related mark-to-market fair value adjustment recorded under liability accounting in 2021 and the reversal of stock-based compensation expense based on forfeiture of unvested equity awards upon termination of our executives and employees.

### Related Party Expenses

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Related party expenses	\$ 4,712	\$ 3,532	\$ 1,180	33 %

Related party expenses increased by \$1.2 million, or 33%, to \$4.7 million for the nine months ended September 30, 2022, from \$3.5 million for the nine months ended September 30, 2021. The increase was primarily attributable to fees related to support certain services pursuant to the TSA with OPKO as a result of the Acquisition of GeneDx.

### Interest Income

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Interest income	\$ 1,405	\$ 57	\$ 1,348	2365 %

Interest income increased by \$1.3 million, or 2365%, to \$1.4 million for the nine months ended September 30, 2022, from a nominal for the nine months ended September 30, 2021. The increase was due to increases in the average cash balances held in our interest-bearing and money market deposit accounts and increases in interest rates.

### Interest Expense

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Interest expense	\$ (2,404)	\$ (2,128)	\$ (276)	13 %

Interest expense increased by \$0.3 million, or 13%, to \$2.4 million for the nine months ended September 30, 2022, from \$2.1 million for the nine months ended September 30, 2021. The increase was driven by the unused line fee and amortization of deferred transaction costs related to the loan and security agreement entered into with Silicon Valley Bank at the end of 2021.

### Other Income

	Nine months ended September 30,		Change	
	2021 to 2022			
	2022	2021	\$	%
	(dollars in thousands)			
Other income	\$ 58	\$ 5,064	\$ (5,006)	(100)%

Other income decreased by \$5.0 million, to \$0.1 million for the nine months ended September 30, 2022, from \$5.1 million for the nine months ended September 30, 2021. This was primarily attributable to the \$5.6 million in funding that was received and recognized as other income under the CARES Act in the first quarter of 2021.

### Reconciliation of Non-GAAP Financial Measures

In addition to our results determined in accordance with GAAP, we believe the following non-GAAP measures are useful in evaluating our operating performance. We use the following non-GAAP financial information to evaluate our ongoing operations and for internal planning and forecasting purposes. We believe that non-GAAP financial information, when taken collectively, may be helpful to investors because it provides consistency and comparability with past financial performance. However, non-GAAP financial information is presented for supplemental informational purposes only and

should not be considered in isolation or as a substitute for financial information presented in accordance with GAAP. In addition, other companies, including companies in our industry, may calculate similarly-titled non-GAAP measures differently or may use other measures to evaluate their performance, all of which could reduce the usefulness of our non-GAAP financial measures as tools for comparison. A reconciliation is provided below for each non-GAAP financial measure to the most directly comparable financial measure stated in accordance with GAAP. Investors are encouraged to review the related GAAP financial measures and the reconciliation of these non-GAAP financial measures to their most directly comparable GAAP financial measures, and not to rely on any single financial measure to evaluate our business.

Non-GAAP financial measures have limitations as analytical tools and you should not consider them in isolation, or as substitutes for analysis of our results as reported under GAAP. We may in the future incur expenses similar to the adjustments in the presentation of non-GAAP financial measures. Other limitations include that non-GAAP financial measures do not reflect:

- all expenditures or future requirements for capital expenditures or contractual commitments;
- changes in our working capital needs;
- the costs of replacing the assets being depreciated, which will often have to be replaced in the future;
- the non-cash component of employee compensation expense; and
- the impact of earnings or charges resulting from matters we consider not to be reflective, on a recurring basis, of our ongoing operations.

### **Adjusted Gross Profit and Adjusted Gross Margin**

Adjusted Gross Profit is a non-GAAP financial measure that we define as revenue less cost of services, excluding stock-based compensation expense and restructuring costs. We define Adjusted Gross Margin as our Adjusted Gross Profit divided by our revenue. We believe these non-GAAP financial measures are useful in evaluating our operating performance compared to that of other companies in our industry, as these metrics generally eliminate the effects of certain items that may vary from company to company for reasons unrelated to overall operating performance.

The following is a reconciliation of revenue to our Adjusted Gross Profit and Adjusted Gross Margin for the three months ended September 30, 2022 and 2021:

	Three months ended September 30,	
	2022	2021
	(in thousands)	
Revenue	\$ 83,234	\$ 43,178
Cost of services	69,685	51,487
<b>Gross Profit (Loss)</b>	<b>13,549</b>	<b>(8,309)</b>
<b>Gross Margin</b>	<b>16%</b>	<b>(19)%</b>
<b>Add:</b>		
Stock-based compensation expense	1,477	1,779
Restructuring costs <sup>(1)</sup>	1,497	—
<b>Adjusted Gross Profit (Loss)</b>	<b>\$ 16,523</b>	<b>\$ (6,530)</b>
<b>Adjusted Gross Margin</b>	<b>20%</b>	<b>(15)%</b>

(1) Represents costs incurred for restructuring activities, which include severance packages offered to impacted employees and third party consulting costs incurred in the third quarter of 2022.

The following is a reconciliation of revenue to our Adjusted Gross Profit and Adjusted Gross Margin for the nine months ended September 30, 2022, and 2021:

	Nine months ended September 30,	
	2022	2021
	(in thousands)	
Revenue	\$173,344	\$154,394
Cost of services	183,768	168,190
<b>Gross Profit (Loss)</b>	<b>(10,424)</b>	<b>(13,796)</b>
<b>Gross Margin</b>	<b>(6)%</b>	<b>(9)%</b>
<b>Add:</b>		
Stock-based compensation expense	4,668	19,948
Restructuring costs <sup>(1)</sup>	1,808	—
<b>Adjusted Gross Profit (Loss)</b>	<b>\$(3,948)</b>	<b>\$6,152</b>
<b>Adjusted Gross Margin</b>	<b>(2)%</b>	<b>4%</b>

(1) Represents costs incurred for restructuring activities, which include severance packages offered to impacted employees and third party consulting costs incurred in the nine months ended September 30, 2022.

### Adjusted EBITDA

Adjusted EBITDA is a non-GAAP financial measure that we define as net loss or income adjusted for interest expense, net, income tax benefit, depreciation and amortization, stock-based compensation expenses, transaction, acquisition and business integration costs, restructuring costs, change in fair market value of financial liabilities and other income. We believe Adjusted EBITDA is useful in evaluating our operating performance compared to that of other companies in our industry, as this metric generally eliminates the effects of certain factors that may vary from company to company for reasons unrelated to overall operating performance.

The following is a reconciliation of our net loss to Adjusted EBITDA for the three months ended September 30, 2022 and 2021:

	Three months ended September 30,	
	2022	2021
	(in thousands)	
Net (loss) income	\$ (77,581)	\$ 32,731
Interest expense, net <sup>(1)</sup>	(190)	656
Income tax benefit	(65)	—
Depreciation and amortization	10,502	5,491
Stock-based compensation expense	1,273	18,011
Transaction, acquisition and business integration costs <sup>(2)</sup>	—	391
Restructuring costs <sup>(3)</sup>	8,993	—
Change in fair market value of financial liabilities <sup>(4)</sup>	(12,978)	(122,171)
Other income	—	343
<b>Adjusted EBITDA</b>	<b>\$ (70,046)</b>	<b>\$ (64,548)</b>

(1) Represents the total of interest expense related to our finance leases and interest-bearing loans and interest income earned on money market funds. This also includes the unused line fee and amortization of deferred transaction costs related to the loan and security agreement entered into with Silicon Valley Bank.

(2) Represents professional service costs incurred in connection with pursuing the business combination transaction that did not meet the requirement for capitalization in 2021.

(3) Represents costs incurred for restructuring activities, which include severance packages offered to impacted employees and third party consulting costs incurred in the third quarter of 2022.

(4) Represents the change primarily in fair market value of the liabilities associated with our Milestone Payments contingent liability based on the achievement of GeneDx revenue-based milestones of \$10.6 million. Included in this amount is also public warrants and private placement warrants and the earn-out shares issuable under the terms of the merger agreement related to our business combination with CMLS.



The following is a reconciliation of our net loss to Adjusted EBITDA for the nine months ended September 30, 2022, and 2021:

	Nine months ended September 30,	
	2022	2021
	(in thousands)	
Net loss	\$ (240,219)	\$ (205,205)
Interest expense, net <sup>(1)</sup>	999	2,071
Income tax benefit	(49,142)	—
Depreciation and amortization	25,269	16,012
Stock-based compensation expense	41,553	182,454
Transaction, acquisition and business acquisition costs <sup>(2)</sup>	13,436	5,496
Restructuring costs <sup>(3)</sup>	18,554	—
Change in fair market value of financial liabilities <sup>(4)</sup>	(54,350)	(122,171)
Other income <sup>(5)</sup>	(56)	(5,241)
Adjusted EBITDA	<u>\$ (243,956)</u>	<u>\$ (126,584)</u>

- (1) Represents the total of interest expense related to our finance leases and interest-bearing loans and interest income earned on money market funds. This also includes the unused line fee and amortization of deferred transaction costs related to the loan and security agreement entered into with Silicon Valley Bank.
- (2) Represents professional service costs incurred in connection with pursuing the business combination transaction that did not meet the requirement for capitalization in 2021. For the period of 2022, this represents professional service costs incurred in connection with the Acquisition transaction, which include due diligence, legal and business integration costs.
- (3) Represents costs incurred for restructuring activities, which include severance packages offered to impacted employees and third party consulting costs incurred in the period of 2022.
- (4) Represents the change primarily in fair market value of the liabilities associated with our Milestone Payments contingent liability based on the achievement of GeneDx revenue-based milestones of \$27.6 million. Included in this amount is also public warrants and private placement warrants and the earn-out shares issuable under the terms of the merger agreement related to our business combination with CMLS.
- (5) For the nine months ended September 30, 2021, the amount represents funding received under the CARES Act Provider Relief Fund in the first quarter of 2021.

## Liquidity and Capital Resources

On July 22, 2021, we completed the business combination with CMLS, consummated the related private placement financing, and received net cash proceeds of \$510 million.

On November 15, 2021, we entered into a loan and security agreement, or the SVB Agreement, with Silicon Valley Bank, or SVB, whereby SVB agreed to provide a \$125 million revolving credit facility with a maturity date of November 15, 2024. No amounts were drawn as of December 31, 2021. Advances under the SVB Agreement will bear interest at a floating rate per annum equal to the greater of (1) 4.00% and (2) the prime rate plus an applicable margin.

On April 29, 2022, upon the closing of the Acquisition of GeneDx, we received gross proceeds of \$200 million from the issuance of 50 million shares of our Class A common stock pursuant to the Acquisition PIPE Investment. The gross proceeds were partially used to pay for the cash consideration of the Acquisition and transaction costs incurred in connection with the Acquisition.

Management believes that our cash and cash equivalents provide us with sufficient liquidity for at least twelve months from the filing date of this Quarterly Report.

Accordingly, the condensed consolidated financial statements included in this Quarterly Report have been prepared on a basis that assumes we will continue as a going concern and which contemplates the realization of assets and satisfaction of liabilities and commitments in the ordinary course of business. Nevertheless, we may also seek additional funding in the future through the sale of common or preferred equity or convertible debt securities, the entry into other credit facilities or another form of third-party funding or by seeking other debt financing. For example, we have an effective shelf registration statement filed with the SEC that permits us to sell from time to time up to \$300 million of additional shares of our Class A common stock or other securities in one or more offerings in amounts, at prices and on the terms that we will determine at the time of offering, although we do not intend to issue shares of our Class A common stock at current market prices.

## Material Cash Requirements for Known Contractual Obligations and Commitments

The following is a description of commitments for known and reasonably likely cash requirements as of September 30, 2022 and December 31, 2021. We anticipate fulfilling such commitments with our existing cash and cash equivalents, which amounted to \$191.4 million and \$400.6 million as of September 30, 2022 and December 31, 2021, respectively, or through additional capital raised to finance our operations; see *"Liquidity and Capital Resources"*.

Our future minimum payments under non-cancellable operating lease agreements were \$81.0 million as of September 30, 2022 and \$68.3 million as of December 31, 2021. The timing of these future payments, by year, can be found in our audited financial statements in Note 10, *"Commitments and Contingencies"* included within our Annual Report on Form 10-K for the year ended December 31, 2021, and our unaudited condensed consolidated financial statements in Note 9, *"Leases,"* included within this Quarterly Report, respectively.

Our future payments under finance leases were \$61.9 million as of September 30, 2022. The timing of these future payments, by year, can be found in our audited financial statements in Note 10, *"Commitments and Contingencies"* included within our Annual Report on Form 10-K for the year ended December 31, 2021, and our unaudited condensed consolidated financial statements in Note 9, *"Leases,"* included within this Quarterly Report, respectively.

## Cash Flows

	Nine Months Ended September 30,	
	2022	2021
	(in thousands)	
Net cash used in operating activities	\$ (254,501)	\$ (138,449)
Net cash used in investing activities	(138,488)	(13,093)
Net cash provided by financing activities	197,250	494,758

## Operating Activities

Net cash used in operating activities during the nine months ended September 30, 2022 was \$254.5 million, which was primarily attributable to a net loss of \$240.2 million and a change in fair value of the warrant and earn-out liabilities of \$54.4 and an income tax benefit of \$49.2 million. This was partially offset by non-cash depreciation and amortization of \$25.3 million, non-cash stock-based compensation expense of \$41.6 million, a provision for excess and obsolete inventory of \$0.7 million and non-cash lease expense of \$1.1 million. The net change in our operating assets and liabilities primarily reflected a \$5.2 million increase in inventories driven by an increase in reagents and a reduction in inventory reserves, a \$28.6 million increase in accounts payable and accrued expenses driven by the payor settlement accrual which was partially offset by timing of vendor payments, a \$10.0 million decrease in other current liabilities mainly driven by the payment of 2021 bonuses, offset by the accrual of the 2022 expected payment, a \$5.5 million decrease in accounts receivable primarily from self-pay payors and a \$5.2 million decrease in prepaid expenses and other current assets mainly driven by the amortization of insurance policy premiums.

Net cash used in operating activities during the nine months ended September 30, 2021 was \$138.4 million, which was primarily attributable to a net loss of \$205.2 million and a change in fair value of the warrant and earn-out liabilities of \$122.2 million, partially offset by non-cash depreciation and amortization of \$16.0 million and non-cash stock-based compensation expense of \$182.5 million. The net change in operating assets and liabilities primarily reflected a \$10.8 million decrease in accounts receivable due to a decrease in COVID-19 test volume performed during the second and third quarter of 2021, a \$7.3 million increase in inventory driven by a higher volume of purchases to support increasing testing volumes, a \$15.7 million increase in prepaid expenses and other current assets mainly driven by new insurance policy premiums paid during the nine months period, a \$4.9 million increase in accounts payable and accrued expenses due to the timing of vendor payments of large vendors, and a \$3.4 million decrease in other current liabilities mainly driven by the repayment of finance leases and decrease in compensation related accruals.

## Investing Activities

Net cash used in investing activities during the nine months ended September 30, 2022 was \$138.5 million, which was primarily attributable to the \$127 million net of cash spent for the Acquisition of GeneDx, \$5.0 million in purchases of property and equipment and \$6.5 million related to spend on development of internal-use software assets.

Net cash used in investing activities during the nine months ended September 30, 2021 was \$13.1 million, which was attributable to \$4.3 million in purchases of property and equipment and \$8.7 million related to spend on development of internal-use software assets.

### **Financing Activities**

Net cash provided by financing activities during the nine months ended September 30, 2022 was \$197.2 million, which was primarily driven by the \$197.7 million proceeds from the Acquisition PIPE Investment, net of issuance costs of \$2.3 million. Additionally, \$2.2 million relates to cash received from exercise of employee stock options, which was offset by \$2.6 million of finance lease principal payments.

Net cash provided by financing activities during the nine months ended September 30, 2021 was \$494.8 million, which was primarily attributable to the consummation of the Business Combination including \$442.7 million from an equity infusion from the Business Combination, net of redemptions and \$350.0 million from Business Combination PIPE Investment proceeds. These activities were offset by \$230.7 million in the cash payments to certain Legacy Sema4 stockholders, payment of transaction costs of \$51.8 million and \$3.8 million of stock appreciate rights pay-outs. These amounts were further offset by an \$8.7 million repayment of long-term debt and \$3.0 million of capital lease principal payments.

### **Critical Accounting Policies and Estimates**

Our management's discussion and analysis of our financial condition and results of operations is based on our unaudited condensed consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these unaudited condensed consolidated 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 unaudited condensed consolidated 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 various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about items that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Except as described in Note 2, "*Summary of Significant Accounting Policies—Recently Issued Accounting Pronouncements but Not Yet Adopted*," to our unaudited condensed consolidated financial statements included in this Quarterly Report, there have been no material changes to our critical accounting policies and estimates as compared to the critical accounting policies and estimates disclosed in our audited consolidated financial statements and notes thereto included within our Annual Report on Form 10-K for the year ended December 31, 2021.

### **JOBS Act Accounting Election**

We are considered an "emerging growth company" within the meaning of the JOBS Act. The JOBS Act allows an emerging growth company to delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. We have elected to use this extended transition period and, as a result, our financial statements may not be comparable to companies that comply with public company effective dates. We also intend to rely on other exemptions provided by the JOBS Act, including not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act.

Following the completion of the Business Combination, we will remain an emerging growth company until the earliest of (1) September 1, 2025, (2) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.235 billion, (3) the last day of the fiscal year in which we are deemed to be a "large accelerated filer" as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our Class A common stock held by non-affiliates exceeded \$700.0 million as of the last business day of the second fiscal quarter of such year or (4) the date on which we have issued more than \$1.0 billion in non-convertible debt securities during the prior three-year period.

### **Recent Accounting Pronouncements**

Additional information on recent accounting pronouncements can be found in the audited financial statements in Note 2, "*Summary of Significant Accounting Policies*" included within our Annual Report on Form 10-K for the year ended December 31, 2021, and our unaudited condensed consolidated financial statements in Note 2, "*Summary of Significant Accounting Policies*" included within this Quarterly Report.

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

We are exposed to market risks in the ordinary course of our business. These risks primarily relate to interest rates. Our cash, cash equivalents, and restricted cash consists of bank deposits and money market funds, which totaled \$205.7 million at September 30, 2022 and \$401.5 million as of December 31, 2021. Such interest-bearing instruments carry a degree of risk; however, because our investments are primarily high-quality credit instruments with short-term durations with high-quality institutions, we have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates. A 100 basis point change in interest rates would not have a material effect on the fair market value of our cash, cash equivalents and restricted cash.

The revolving credit facility under the SVB Agreement includes variable interest rate terms for the outstanding principal amount of any advance.. Therefore, changes change in interest rates can impact our interest payments we are obligated to pay. As of September 30, 2022, no amounts have been drawn under the SVB Agreement. Additional information on our long-term debt can be found in Sema4's audited financial statements in Note 8, "*Long-Term Debt*" and Sema4's unaudited condensed consolidated financial statements in Note 8, "*Long-Term Debt*."

### Item 4. Controls and Procedures

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

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

As required by Rules 13a-15 and 15d-15 under the Exchange Act, our Chief Executive Officer and Chief Financial Officer carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of September 30, 2022. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were not effective as of September 30, 2022 because of the material weaknesses in internal control over financial reporting as of December 31, 2021 that we previously identified in Item 9A. "Controls and Procedures" of our Annual Report on Form 10-K for the year ended December 31, 2021 and had not been fully remediated as of September 30, 2022.

Notwithstanding the identified material weaknesses in internal control over financial reporting, our management has concluded that our condensed consolidated financial statements included in the Quarterly Report on Form 10-Q are fairly stated in all material respects in accordance with accounting principles generally accepted in the United States of America.

#### *Previously Reported Material Weaknesses*

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual or interim financial statements will not be prevented or detected on a timely basis.

As described in more detail in Item 9A. "Controls and Procedures" of our Annual Report on Form 10-K for the year ended December 31, 2021, the material weaknesses identified related to the fact that we did not design and maintain accounting policies, procedures and controls to ensure complete, accurate and timely financial reporting in accordance with U.S. GAAP.

#### *Remediation Plan*

Our management is actively engaged and committed to taking the steps necessary to remediate the control deficiencies that constituted the material weaknesses, and these remediation activities are continuing in 2022. In addition to the remediation actions undertaken during 2021 and described in more detail in Item 9A. "Controls and Procedures" of our Annual Report on Form 10-K for the year ended December 31, 2021, we have engaged in additional activities, including, but not limited to:

- Hiring more technical accounting resources to enhance our control environment;
- Engaging external consultants to provide support and to assist us in our evaluation of more complex applications of GAAP, and to assist us with documenting and assessing our accounting policies and procedures until we have sufficient technical accounting resources;
- Implementing business process-level controls across all significant accounts and information technology general controls across all relevant systems. This includes providing training for control owners that will present expectations as it relates to the control design, execution and monitoring of such controls, including enhancements to the documentation to evidence the execution of the controls; and
- Implementing improvements to our ERP system to enhance the accuracy of our financial records, enable the enforcement of systematic segregation of duties, and to improve our information technology general controls environment.

We continue to enhance corporate oversight over process-level controls and structures to ensure that there is appropriate assignment of authority, responsibility, and accountability to enable remediation of our material weaknesses. We believe that our remediation plan will be sufficient to remediate the identified material weaknesses and strengthen our controls. As we continue to evaluate, and work to improve our controls, management may determine that additional measures to address control deficiencies or modifications to the remediation plan are necessary.

While we have performed certain remediation activities to strengthen our controls to address the identified material weaknesses, control weaknesses are not considered remediated until new internal controls have been operational for a period of time, are tested, and management concludes that these controls are operating effectively. We will continue to monitor the effectiveness of our remediation measures in connection with our future assessments of the effectiveness of internal control over financial reporting and disclosure controls and procedures, and we will make any changes to the design of our plan and take such other actions that we deem appropriate given the circumstances.

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

There was no change in our internal control over financial reporting that occurred during the three months ended September 30, 2022 covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting, other than as described herein. We are continuing to take steps to remediate the material weaknesses in our internal control over financial reporting, as discussed above.

#### *Inherent Limitation on the Effectiveness of Internal Control*

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures, or our internal controls, will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our Company have been detected.

## Part II - Other Information

### Item 1. Legal Proceedings

Except as described below, we, and our subsidiaries, are currently not a party to, and our property is not currently the subject of, any material pending legal proceedings; however, we may become involved in various claims and legal actions arising in the ordinary course of business.

On September 7, 2022, a shareholder class action lawsuit was filed in the United States District Court for the District of Connecticut against the Company and certain of the Company's current and former officers. The complaint purports to bring suit on behalf of stockholders who purchased the Company's publicly traded securities between March 14, 2022 and August 15, 2022. The complaint purports to allege that defendants made false and misleading statements about the Company's business, operations and prospects in violation of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, and seeks unspecified compensatory damages, fees and costs. The Company believes the allegations and claims made in the complaint are without merit.

### Item 1A. Risk Factors

*You should carefully review and consider the following risk factors and the other information contained in this Quarterly Report on Form 10-Q before deciding whether to invest in our Class A common stock. We cannot assure you that any of the events discussed below will not occur. These events could have a material and adverse impact on our business, financial condition, results of operations and prospects. Unless otherwise indicated, references to our business being harmed in these risk factors will include harm to our business, reputation, financial condition, results of operations, net revenue and future prospects. In such event, the trading price of our Class A common stock could decline, and you could lose all or part of your investment. We may face additional risks and uncertainties that are not presently known to us, or that we currently deem immaterial, which may also impair our business or financial condition. The following discussion should be read in conjunction with the unaudited condensed consolidated financial statements and notes thereto included herein.*

#### Risk Factors Summary

Our business is subject to a number of risks and uncertainties, including those risks discussed at length below. These risks include, among others, the following:

- The ongoing COVID-19 pandemic has affected and may further materially and adversely affect our business and financial results.
- We face intense competition. If we do not continue to innovate and provide products and services that are useful to users, we may not remain competitive, which could harm our business and operating results.
- If third-party payors, including managed care organizations, private health insurers and government health plans, do not provide adequate reimbursement for our tests, or seek to amend or renegotiate their fee reimbursement schedules, if we are unable to comply with their requirements for reimbursement, or if we are unable to respond to payor audits or resolve payor overpayment claims favorably our commercial success could be negatively affected.
- We have limited experience with the development and commercialization of our databases and our health information and genomic platforms.
- If we fail to comply with federal and state laboratory licensing requirements or standards, we could lose the ability to perform our tests or experience disruptions to our business.
- We rely on highly skilled personnel in a broad array of disciplines and, if we are unable to hire, retain or motivate these individuals, or maintain our corporate culture, we may not be able to maintain the quality of our services or grow effectively.
- We need to scale our infrastructure in advance of demand for our products and services, and our failure to generate sufficient demand for our products and services would have a negative impact on our business and our ability to attain profitability.
- We rely on a limited number of suppliers or, in some cases, single suppliers, for some of our laboratory instruments and materials and may not be able to find replacements or immediately transition to alternative suppliers or service providers.

- We rely on a limited number of product and service providers for data infrastructure and analytics capabilities, and any disruption of, or interference with, our use of data and workflow services could adversely affect our business, financial condition, and results of operations, and we may not be able to find replacements or immediately transition to alternative products or service providers.
- Our projections are subject to significant risks, assumptions, estimates and uncertainties, including assumptions regarding adoption of our products and services. As a result, our projected revenues, market share, expenses and profitability may differ materially from our expectations in any given quarter or fiscal year.
- Uncertainty in the development and commercialization of our enhanced or new tests or services could materially adversely affect our business, financial condition and results of operations.
- We currently use, and in the future expect to increase our use of, information and rights from customers, strategic partners, and collaborators for several aspects of our operations, and if we cannot maintain current and enter new relationships with these parties with adequate access and authorization to such information, our business will suffer.
- Our operating results could be subject to significant fluctuation, which could increase the volatility of our stock and warrant prices and cause losses to our stockholders.
- We may need to raise additional capital to fund our existing operations, develop additional products and services, commercialize new products and services or expand our operations and may have difficulties raising capital depending on financial market conditions.
- We expect to make significant investments in our continued research and development of new products and services, which may not be successful.
- We have identified material weaknesses, some of which have a pervasive effect across the organization, and may identify additional material weaknesses or significant deficiencies, in our internal controls over financial reporting. Our failure to remedy these matters could result in a material misstatement of our financial statements and we will incur increased costs and demands on management as a result of compliance with internal control requirements, which could harm our operating results.
- We rely on third-party laboratories to perform certain elements of our service offerings.
- As a result of the Acquisition, OPKO became a substantial holder of shares of our Class A common stock and sales by OPKO into the market in the future could cause the market price of our Class A common stock to drop significantly, even if our business is doing well.
- Our ability to be successful following the Acquisition depends upon our efforts to integrate Sema4's and GeneDx's businesses and operations.
- Our ability to be successful is further dependent upon the efforts of our key personnel, including the key personnel of GeneDx following the Acquisition. The loss of key personnel could negatively impact our operations and profitability our financial condition could suffer as a result.
- We may be unable to realize the level of the anticipated benefits that we expect from exiting businesses and restructuring our operations, which may adversely impact our business and results of operations.
- Future changes in FDA enforcement discretion for LDTs could subject our operations to much more significant regulatory requirements.
- Compliance with the HIPAA security, privacy and breach notification regulations may increase our costs.
- We face uncertainty related to healthcare reform, pricing, coverage and reimbursement, which could reduce our revenue.
- We cannot guarantee that we will be able to satisfy the continued listing standards of Nasdaq going forward and if we fail to satisfy the continued listing requirements of Nasdaq, including the minimum closing bid price requirement, Nasdaq may take steps to delist our Class A common stock.
- Our inability to effectively protect our proprietary products, processes, and technologies, including the confidentiality of our trade secrets, could harm our competitive position.

- Security breaches, privacy issues, loss of data and other incidents could compromise sensitive, protected, or personal information related to our business, could prevent it from accessing critical information, and could expose it to regulatory liability, which could adversely affect our business.
- We will incur increased costs and demands on management as a result of compliance with laws and regulations applicable to public companies, which could harm our operating results.

## **Risks Related to Our Business, Industry and Operations**

### ***The ongoing COVID-19 pandemic has affected and may further materially and adversely affect our business and financial results.***

The ongoing COVID-19 pandemic, together with related precautionary measures in response to the initial outbreak and resurgences, materially disrupted our business during certain periods in 2020 and 2021 and may continue to disrupt our business for an unknown period of time. Since the initial outbreak, we experienced a significant impact to our 2020 and 2021 operating results, including our order volumes, revenues, margins, and cash utilization, among other measures and may experience further impacts in future periods depending on the evolution of the COVID-19 pandemic.

Throughout 2020 and 2021, both we and our partners also undertook a number of precautionary measures in response to the virus, including requiring employees to work remotely, restricting travel and limiting interactions in person, and we expect to adjust our precautionary measures at our various locations based on local recovery levels, vaccination rates and applicable governmental regulations. Our business could be negatively affected in the future if it takes excessive, ineffective or inadequate precautions.

The ongoing COVID-19 pandemic has materially impacted our business in 2020 and 2021 and may continue to impact our business for an unknown period of time. Such impacts have included and may include the following:

- Healthcare providers or 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 (including oncology and pregnancy-related screenings), contributing to a decline in orders for our products or services;
- Restrictions on travel, commerce and shipping may prevent patients and pathologists from shipping samples to our clinical laboratories;
- Illnesses, quarantines, financial hardships, restrictions on travel, commerce and shipping, or other consequences of the pandemic, may disrupt our supply chain or other business relationships, and we or other parties may assert rights under force majeure clauses to excuse performance;
- We have experienced, and for an extended period of time may continue to experience, reduced volumes at our clinical laboratories and we may need to suspend operations at some or all of our clinical laboratories;
- We have taken, and may take additional, cost cutting measures, which may hinder our efforts to commercialize our products or delay the development of future products and services. Further, we might not realize all of the cost savings we expect to achieve as a result of those efforts;
- We and our partners have postponed or cancelled clinical studies, which may delay or prevent our launch of future products and services;
- Some or all of our workforce, much of which continues to work remotely in an effort to reduce the spread of COVID-19, may be infected by the virus or otherwise distracted;
- A combination of factors, including infection from the virus, supply shortfalls, and inability to obtain or maintain equipment, could adversely affect our lab capacity and our ability to meet the demand for our testing services; and
- 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 current or future market conditions.

Despite our efforts, the ultimate impact of the COVID-19 pandemic, or the impact of the emergence of new strains of the virus and any future resurgences of COVID-19 or variant strains, depends on factors beyond our knowledge or control, including availability and distribution of effective medical treatments and vaccines, the duration and severity of the



pandemic, third-party actions taken to contain its spread and mitigate its public health effects and short- and long-term changes in the behaviors of medical professionals and patients resulting from the pandemic.

Additionally, the economic consequences of the COVID-19 pandemic have, and may continue to, adversely impacted financial markets, resulting in high share price volatility, reduced market liquidity, and substantial declines in the market prices of the securities of many publicly traded companies. Volatile or declining markets for equities could adversely affect our ability to raise capital in the future when needed through the sale of shares of Class A common stock or other equity or equity-linked securities. If these market conditions persist when and if we need to raise capital, and if we are able to sell shares of our Class A common stock under then prevailing market conditions, we might have to accept lower prices for our shares and issue a larger number of shares than might have been the case under better market conditions, resulting in significant dilution of the interests of our stockholders.

***Due to the high degree of uncertainty regarding the implementation and impact of the CARES Act and other legislation related to COVID-19, there can be no assurance that we will be able to comply with the applicable terms and conditions of the CARES Act and retain such assistance.***

On March 27, 2020, the CARES Act was signed into law, aimed at providing emergency assistance and health care for individuals, families, and businesses affected by the COVID-19 pandemic and generally supporting the U.S. economy. The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, and modifications to the net interest deduction limitations. The CARES Act and similar legislation intended to provide assistance related to the COVID-19 pandemic also authorized \$175.0 billion in funding to be distributed by the U.S. Department of Health and Human Services (the “HHS”), to eligible health care providers. This funding, known as the Provider Relief Fund, is designated to fund eligible healthcare providers’ healthcare-related expenses or lost revenues attributable to COVID-19. On December 27, 2020, the Consolidated Appropriations Act, 2021 was signed into law, which adds \$3.0 billion to the Provider Relief Fund. Payments from the Provider Relief Fund are subject to certain eligibility criteria, as well as reporting and auditing requirements, but do not need to be repaid to the U.S. government if recipients comply with the applicable terms and conditions.

In 2020, we received \$5.4 million as part of the stimulus, comprised of \$2.6 million received under the PRF and \$2.8 million received under the ERC. In 2021, we received an additional \$5.6 million under the PRF distribution. Funds provided under the PRF distributions to healthcare providers are not loans and will not be required to be repaid; however, as a condition to receiving these payments, providers must agree to certain terms and conditions and submit sufficient documentation demonstrating that the funds are being used for healthcare-related expenses or lost revenue attributable to the COVID-19 pandemic. Funds provided under the ERC distributions are refundable tax credits for 50% of qualified wages paid to employees during the pandemic. A company is eligible for the ERC if it has not received a Paycheck Protection Program loan under the Cares Act and (1) its operations have been fully or partially suspended because of COVID-19 or (2) its gross receipts in a calendar quarter in 2020 declined by more than 50% from the same period in 2019. At the time of applying for the ERC, we concluded that the eligibility requirements were met. However, subsequent to the filing of the application, our revenue was revised due to a change in estimate as a result of finalizing our accounting records, which impacted the applicable periods and calculations for determining eligibility, and may no longer meet the eligibility requirements. As such, we have deferred the recognition of the funds received under the ERC distribution and recorded the proceeds in other liabilities on the balance sheets as of September 30, 2022 and December 31, 2021.

Due to the high degree of uncertainty regarding the implementation of the CARES Act, the Consolidated Appropriations Act, 2021 and other stimulus legislation, and due to our revenue revisions, there can be no assurance that the terms and conditions of the PRF, ERC or other relief programs will not change or be interpreted in ways that affect our ability to comply with such terms and conditions in the future, which could affect our ability to retain such assistance. We will continue to monitor our compliance with the terms and conditions of the PRF, including demonstrating that the distributions received have been used for healthcare-related expenses or lost revenue attributable to COVID-19, and the ERC. If we are unable to comply with current or future terms and conditions, our ability to retain some or all of the distributions received may be impacted, and we may be subject to actions including payment recoupment, audits and inquiries by governmental authorities, and criminal, civil or administrative penalties.

***Other companies or institutions may develop and market novel or improved technologies, which may make our technologies less competitive or obsolete.***

We operate in a rapidly evolving and highly competitive industry. There are a number of private and public companies that offer products or services or have announced that they are developing products or services that compete, or may one

day compete, with our products or services. Some of our current and potential competitors possess greater brand recognition, financial and other resources and development capabilities than we do. As the fields of genomic analysis and health information become more widely known to the public, we anticipate that competition will further increase. We expect to compete with a broad range of organizations in the U.S. and other countries that are engaged in the development, production and commercialization of genetic screening products, including reproductive and women's health and pediatrics and NICU screening products, health information services, and analytics, and data science services, and other diagnostic products. These competitors include:

- companies that offer clinical, research and data clinical services, molecular genetic testing and other clinical diagnostics, life science research and drug discovery services, data services and healthcare analytics, and consumer genetics products;
- academic and scientific institutions;
- governmental agencies; and
- public and private research organizations.

We may be unable to compete effectively against our competitors either because their products and services are superior or because they may have more expertise, experience, financial resources, or stronger business relationships. These competitors may have broader product lines and greater name recognition than we do. Furthermore, we must compete successfully in our existing markets, including reproductive and women's health and pediatrics and NICU, but also in any new markets we expand into. Even if we successfully develop new marketable products or services, our current and future competitors may develop products and services that are more commercially attractive than ours, and they may bring those products and services to market earlier or more effectively than we are able to. If we are unable to compete successfully against current or future competitors, we may be unable to increase market acceptance for and sales of our tests and services, which could prevent us from increasing or sustaining our revenues or achieving sustained profitability.

***We face intense competition. If we do not continue to innovate and provide products and services that are useful to users, we may not remain competitive, which could harm our business and operating results.***

Our business environment is rapidly evolving and intensely competitive. Our businesses face changing technologies, shifting provider and patient needs, and frequent introductions of rival products and services. To compete successfully, we must accurately anticipate technology developments and deliver innovative, relevant and useful products, services, and technologies in a timely manner. As our businesses evolve, the competitive pressure to innovate will encompass a wider range of products and services. We must continue to invest significant resources in research and development, including through acquisitions and collaborations, joint ventures and partnerships, in order to enhance our current diagnostics and health information and data science technologies, and existing and new products and services based off these technologies.

We have many competitors in different industries. Our current and potential domestic and international competitors range from large and established companies to emerging start-ups in addition to academic and scientific institutions, and public and private research organizations. Some competitors have longer operating histories in various sectors. They can use their experience and resources in ways that could affect our competitive position, including by making acquisitions, continuing to invest heavily in research and development and in talent, initiating intellectual property claims (whether or not meritorious), and continuing to compete aggressively for our customers and partners in the market for health information and data science products and services. Our competitors may be able to innovate and provide products and services faster than we can or may foresee the need for products and services before we do.

Our operating results may also suffer if our products and services are not responsive to the needs of our customers and partners. As technologies continue to develop, our competitors may be able to offer products and services that are, or that are seen to be, substantially similar to or better than our current products and services. This may force us to compete in different ways and expend significant resources in order to remain competitive. If our competitors are more successful than us in developing compelling products and services for or in attracting and retaining customers or partners in the market for health information and data science products and services, our operating results could be harmed.

***If third-party payors, including managed care organizations, private health insurers and government health plans, do not provide adequate reimbursement for our tests, or seek to amend or renegotiate their fee reimbursement schedules, if we are unable to comply with their requirements for reimbursement, or if we are unable to respond to payor audits or resolve payor overpayment claims favorably, our commercial success could be negatively affected.***

Our ability to increase the number of billable tests and our revenue therefrom will depend on our success in achieving reimbursement for our tests from third-party payors. Reimbursement by a payor may depend on a number of factors, including a payor's determination that a test is appropriate, medically necessary, cost-effective and has received prior authorization. The commercial success of our current and future products, if approved, will depend on the extent to which our customers receive coverage and adequate reimbursement from third-party payors, including managed care organizations and government payors (e.g., Medicare and Medicaid).

Since each payor makes its own decision as to whether to establish a policy or enter into a contract to cover our tests, as well as the amount it will reimburse for a test, seeking these approvals is a time-consuming and costly process. In addition, the determination by a payor to cover and the amount it will reimburse for our tests will likely be made on an indication-by-indication basis and may consider our billing practices and reimbursements from other payors and from our patient billing programs. To date, we have obtained policy-level reimbursement approval or contractual reimbursement for some indications for our tests from most of the large commercial third-party payors in the United States, and the Centers for Medicare & Medicaid Services ("CMS") provides reimbursement for our multi-gene tests for hereditary breast and ovarian cancer-related disorders as well as other tests. We believe that establishing adequate reimbursement from Medicare is an important factor in gaining adoption from healthcare providers. Our claims for reimbursement from third-party payors may be denied upon submission, and we must appeal the claims. The appeals process is time consuming and expensive and may not result in payment. In cases where there is not a contracted rate for reimbursement, there is typically a greater coinsurance or copayment requirement from the patient, which may result in further delay or decreased likelihood of collection.

A significant portion of the payments for our tests are paid or reimbursed under insurance programs with third-party payors. To contain reimbursement and utilization rates, third-party payors often attempt to, or do in fact, amend or renegotiate their fee reimbursement schedules. Loss of revenue caused by third-party payor cost containment efforts or an inability to negotiate satisfactory reimbursement rates could have a material adverse effect on our revenue and results of operations.

Furthermore, in cases where we or our partners have established reimbursement rates with third-party payors, we face additional challenges in complying with their procedural requirements for reimbursement. These requirements often vary from payor to payor and are reassessed by third party payors on a regular basis, and we have needed additional time and resources to comply with them. We have also experienced, and may continue to experience, delays in or denials of coverage if we do not adequately comply with these requirements. Our third-party payors have also requested, and in the future may request, audits of the amounts paid to us. For example, we are currently engaged in discussions with one of our third-party payors regarding certain overpayments we allegedly received from the payor for services that the payor alleges are not covered by, or were not otherwise properly billed to, the payor. This payor has asserted that it will seek recovery or recoupment in relation to the alleged overpayments, if the matter cannot be settled. As a result of this matter and other potential settlements with payors, we have established certain liabilities and reversed certain of our previously recorded revenue. For more information regarding this matter, see Note 4, "Revenue Recognition" to our unaudited condensed consolidated financial statements included within this Quarterly Report. We have been required to repay certain amounts to payors as a result of such audits, and we could be adversely affected if we are required to repay other payors for alleged overpayments due to lack of compliance with their reimbursement policies as well as agree to lower contracted reimbursement rates in connection with resolving claims of alleged overpayments. In addition, we have experienced, and may continue to experience, delays in reimbursement when we transition to being an in-network provider with a payor.

We expect to continue to focus our resources on increasing adoption of, and expanding coverage and reimbursement for, our current tests and any future tests we may develop or acquire. If we fail to expand and maintain broad adoption of, and coverage and reimbursement for, our tests, our ability to generate revenue could be harmed and our future prospects and our business could suffer.

***We have limited experience with the development and commercialization of our databases and our health information and genomic platforms.***

We have limited experience with the development or commercialization of clinical or research products in connection with the databases we manage and to which we have access, including our Centrellis and Traversa platforms. Our partners' usage of an advanced machine learning engine for therapeutic decision-making are at an early stage of development and usage under current and proposed collaborations, and we are continuing to develop new processes that may support the development of new therapeutics applications such as the delivery of personalized clinically actionable insights into clinical reports, clinical trial matching, real-world evidence trials, and clinical decision support, via an advanced programmable interface layer. Although our partners have invested significant financial resources to develop and utilize

new technologies to support preclinical studies and other early research and development activities, and provide general and administrative support for these operations, our future success is dependent on our current and future partners' ability to successfully derive actionable insights from the database and our platform, and our partners' ability, where applicable, to obtain regulatory approval for new therapeutic solutions based off existing models or to obtain regulatory approval and marketing for, and to successfully commercialize, new therapeutics. The use of our platform and the databases it manages and to which it has access for these purposes will require additional regulatory investments for Centrellis, such as "good practice" quality guidelines and regulations ("GxP"), and data quality and integrity controls.

***Ethical, legal and social concerns related to the use of genomic medicine and health information analysis could reduce demand for our tests.***

Genomic medicine and health information analysis has raised ethical, legal and social issues regarding privacy rights and the appropriate uses of the resulting information. Domestic and international governmental and regulatory authorities could, for social or other purposes, such as data privacy, limit or regulate the use of health information or health information testing or prohibit testing for specific information derived from health information testing, including, for example, data on genetic predisposition to certain conditions, particularly for those that have no known cure. Similarly, these concerns may lead patients to refuse to use, or clinicians to be reluctant to order, genomic tests as part of health information assessment even if permissible, or lead patients to withhold or withdraw consent for our use of their data. These and other ethical, legal and social concerns may limit market acceptance of our tests or services or reduce the potential markets for our tests, or services either of which could have an adverse effect on our business, research, financial condition or results of operations.

***If we fail to comply with federal and state laboratory licensing requirements or standards, we could lose the ability to perform our tests or experience disruptions to our business.***

We are subject to Clinical Laboratory Improvement Amendments of 1988 ("CLIA"), a federal law that regulates clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease. CLIA regulations establish specific standards with respect to personnel qualifications, facility administration, proficiency testing, quality control, quality assurance and inspections. CLIA certification is also required in order for us to be eligible to bill state and federal healthcare programs, as well as many private third-party payors, for our tests. We have current CLIA, CAP, and other certifications to conduct our tests at our laboratories in Connecticut. To renew these certifications, we are subject to survey and inspection on a regular basis and at the request of the certifying bodies. Moreover, CLIA inspectors may make random inspections of our clinical reference laboratories.

We would also be required to maintain in-state licenses if we were to conduct testing in other states. Several states require the licensure of out-of-state laboratories that accept specimens from certain states.

In addition to having laboratory licenses in New York, our clinical reference laboratories are approved on test-specific bases for the tests they run as laboratory-developed tests ("LDTs"), by the New York State Department of Health ("NYDOH"). Other states may adopt similar licensure requirements in the future, which may require us to modify, delay or stop our operations in such jurisdictions. We may also be subject to regulation in foreign jurisdictions as we seek to expand international utilization of our tests or such jurisdictions adopt new licensure requirements, which may require review of our tests in order to offer them or may have other limitations such as restrictions on the transport of samples necessary for us to perform our tests that may limit our ability to make our tests available outside of the United States. Complying with licensure requirements in new jurisdictions may be expensive, time-consuming, and subject us to significant and unanticipated delays.

Failure to comply with applicable clinical laboratory licensure requirements or standards may result in a range of enforcement actions, including license suspension, limitation, or revocation, directed plan of action, onsite monitoring, civil monetary penalties, criminal sanctions, and cancellation of the laboratory's approval to receive Medicare and Medicaid payment for our services, as well as significant adverse publicity. Any sanction imposed under CLIA, its implementing regulations, or state or foreign laws or regulations governing clinical laboratory licensure, or our failure to renew our CLIA certifications, a state or foreign license, or accreditation, could have a material adverse effect on our business, financial condition and results of operations. Even if we were able to bring our laboratory back into compliance, we could incur significant expenses and potentially lose revenue in doing so.

The College of American Pathologists ("CAP"), maintains a clinical laboratory accreditation program. CAP asserts that its program is "designed to go well beyond regulatory compliance" and helps laboratories achieve the highest standards of excellence to positively impact patient care. While not required to operate a CLIA-certified laboratory, many

private insurers require CAP accreditation as a condition to contracting with clinical laboratories to cover their tests. In addition, some countries outside the United States require CAP accreditation as a condition to permitting clinical laboratories to test samples taken from their citizens. We have CAP accreditations for our laboratories. Failure to maintain CAP accreditation could have a material adverse effect on the sales of our tests and the results of our operations.

#### **Additional Risks Related to GeneDx's Business and Operations**

***GeneDx needs to scale its infrastructure in advance of demand for its tests, and its failure to generate sufficient demand for its tests would have a negative impact on its business and its ability to attain profitability.***

GeneDx's success depends in large part on its ability to extend its market position, to provide customers with high-quality test reports quickly and at a lower price than its competitors, and to achieve sufficient test volume to realize economies of scale. GeneDx's overall test volumes grew from approximately 134 thousand to 169 thousand tests processed during the years ended December 31, 2020 and 2021. In addition, GeneDx regularly evaluates and refines its testing process, often significantly updating its workflows, including with respect to exome sequencing and whole genome sequencing. In order to execute GeneDx's business model, it intends to continue to invest heavily in order to significantly scale its infrastructure, including GeneDx's testing capacity, particularly, with respect to exome sequencing and whole genome sequencing to supplement its panel testing capabilities, and information systems, expand its commercial operations, customer service, billing and systems processes and enhance its internal quality assurance program. GeneDx expects that much of this growth will be in advance of demand for its tests. GeneDx's and Sema4's current and future expense levels are to a large extent fixed and are largely based on investment plans and estimates of future revenue. Because the timing and amount of revenue from GeneDx's tests is difficult to forecast, when revenue does not meet expectations, GeneDx may not be able to adjust its spending promptly or reduce spending to levels commensurate with its revenue. Even if GeneDx successfully scales its infrastructure and operations, there can be no assurance that tests will increase at levels consistent with the growth of GeneDx's infrastructure. If GeneDx fails to generate demand commensurate with this growth or if it fails to scale its infrastructure sufficiently in advance of demand to successfully meet such demand, its business, prospects, financial condition and results of operations could be adversely affected.

***If GeneDx is not able to continue to generate substantial demand of its tests, its commercial success will be negatively affected.***

GeneDx's business model assumes that it will be able to generate significant test volume, particularly with respect to exome sequencing and whole genome sequencing in addition to its panel testing offerings, and it may not succeed in continuing to drive adoption of its tests to achieve sufficient volumes. Inasmuch as detailed genetic data from exome and whole genome sequencing has only recently become available at relatively affordable prices, the continued pace and degree of clinical acceptance of the utility of such testing is uncertain. Specifically, it is uncertain how much genetic data will be accepted as necessary or useful, as well as how detailed that data should be, particularly since medical practitioners may have become accustomed to genetic testing that is specific to one or a few genes and may not embrace the utility of exome sequencing and whole genome sequencing. Given the substantial amount of additional information available from a broad-based testing panel such as GeneDx's, there may be distrust as to the reliability of such information when compared with more limited and focused genetic tests. To generate further demand for GeneDx's tests, GeneDx will need to continue to make clinicians aware of the benefits of its tests, including the price, the breadth of its testing options, and the benefits of having additional genetic data available from which to make treatment decisions. A lack of or delay in clinical acceptance of GeneDx's exome sequencing and whole genome sequencing testing, or its legacy broad-based panels testing, would negatively impact sales and market acceptance of GeneDx's tests and limit its revenue growth and potential profitability. Genetic testing is expensive and many potential customers may be sensitive to pricing. In addition, potential customers may not adopt GeneDx's tests if adequate reimbursement is not available, or if GeneDx is not able to maintain low prices relative to its competitors.

If GeneDx is not able to generate demand for its tests at sufficient volume, or if it takes significantly more time to generate this demand than GeneDx anticipates, GeneDx's business, prospects, financial condition and results of operations could be materially harmed.

GeneDx has devoted a portion of its resources to the development and commercialization of exome sequencing and whole genome sequencing, and to research and development activities related to such sequencing and the analysis thereof, including clinical and regulatory initiatives to obtain diagnostic clearance and marketing approval. The demand for these regulated products is relatively unproven, and GeneDx may not be successful in achieving market awareness and demand for these products through our sales and marketing operations.

***If GeneDx's laboratories become inoperable due to disasters, health epidemics or for any other reasons, it will be unable to perform tests and its business will be harmed.***

GeneDx performs all of its tests at its production facilities in Gaithersburg, Maryland. GeneDx's laboratories and the equipment it uses to perform its tests would be costly to replace and could require substantial lead time to replace and qualify for use. GeneDx's laboratories may be harmed or rendered inoperable by natural or man-made disasters, including flooding, fire and power outages, or by health epidemics, which may render it difficult or impossible for GeneDx to perform its tests for some period of time. The inability to perform GeneDx's tests or the backlog that could develop if its laboratories are inoperable for even a short period of time may result in the loss of customers or harm its reputation. Although GeneDx maintains insurance for damage to its property and the disruption of its business, this insurance may not be sufficient to cover all potential losses and may not continue to be available to GeneDx on acceptable terms, if at all.

#### **Risks Related to Our Business Model**

***We rely on highly skilled personnel in a broad array of disciplines and, if we are unable to hire, retain or motivate these individuals, or maintain our corporate culture, we may not be able to maintain the quality of our services or grow effectively.***

Our performance, including our research and development programs and laboratory operations, largely depends on our continuing ability to identify, hire, develop, motivate and retain highly skilled personnel for all areas of our organization, including software developers, geneticists, biostatisticians, bioinformaticians, data scientists, certified laboratory directors and technicians and other scientific and technical personnel to process and interpret our tests and related data. In addition, we may need to continue to expand our sales force with qualified and experienced personnel. Competition in our industry for qualified employees is intense, and we may not be able to attract or retain qualified personnel in the future due to the competition for qualified personnel among life science and technology businesses as well as universities and public and private research institutions, particularly in the New York City and the tri-state area. Further, we may be unable to obtain the necessary visas for foreign personnel to work in the United States. In addition, our compensation arrangements, such as our equity award programs, may not always be successful in attracting new employees and retaining and motivating our existing employees. If we are not able to attract and retain the necessary personnel to accomplish our business objectives, we may experience constraints that could adversely affect our ability to scale our business, support our research and development efforts and our clinical laboratories. We believe that our corporate culture fosters innovation, creativity and teamwork. However, as our organization grows, we may find it increasingly difficult to maintain the beneficial aspects of our corporate culture. This could negatively impact our ability to retain and attract employees and our future success.

***The loss of any member or change in structure of our senior management team could adversely affect our business.***

Our success depends in large part upon the skills, experience and performance of members of our executive management team and others in key leadership positions. The efforts of these persons will be critical to us as we continue to develop our technologies and test processes and focus on scaling our business. If we were to lose one or more key executives, including our Chief Executive Officer, Katherine Stueland, we may experience difficulties in competing effectively, developing our tests and technologies and implementing our business strategy. Only certain of our executives have employment contracts, and the majority of our employees are at-will, which means that either we or any employee may terminate their employment at any time or in the notice period set forth in an executive's contract. In addition, we do not have long-term retention agreements in place with our executive officers. Furthermore, we compete against other leading companies in the diagnostics, health information, and data sciences markets for top talent. If such competitors offer better compensation or opportunities, there is no guarantee that we would be able to retain our key executives.

***We may not be able to manage our future growth effectively, which could make it difficult to execute our business strategy.***

Our expected future growth could create a strain on our organizational, administrative and operational infrastructure, including data and laboratory operations, quality control, customer service, marketing and sales, and management. We may not be able to maintain the quality of or expected turnaround times for our products or services, or satisfy customer demand as it grows. We may need to continue expanding our sales force to facilitate our growth, and we may have difficulties locating, recruiting, training and retaining sales personnel. Our ability to manage our growth effectively will require us to continue to improve our operational, financial and management controls, as well as our reporting systems and procedures. As we grow, any failure of our controls or interruption of our facilities or systems could have a negative impact on our business and financial operations. We plan to develop and launch new versions of our Centrellis and Traversa platforms and our core diagnostic products, which will affect a broad range of business processes and functional areas. The time and resources required to implement these new systems is uncertain, and failure to complete these activities in a timely and



efficient manner could adversely affect our operations. Future growth in our business could also make it difficult for it to maintain our corporate culture. If we are unable to manage our growth effectively, it may be difficult for us to execute our business strategy and our business could be harmed.

***We need to scale our infrastructure in advance of demand for our products and services, and our failure to generate sufficient demand for our products and services would have a negative impact on our business and our ability to attain profitability.***

Our success depends in large part on our ability to extend our market position, to provide customers with high-quality health reports and health information and data science services in a manner that differentiates us from our competitors, and to deploy technologies and achieve sufficient volumes to realize economies of scale. In order to execute our business model, we intend to continue to invest heavily in order to significantly scale our infrastructure, including our lab infrastructure and testing capacity and our information and computing systems, expand our commercial operations, customer service, billing and systems processes and enhance our internal quality assurance program. We will also need to enhance our capacity for data privacy management as we scale our infrastructure. We expect that much of this growth will be in advance of both demand for our products and services as well as our ability to diversify our offerings, including services related to Centrellis and Traversa and the databases we manage and to which we have access, and our ability to find appropriate partners through collaborations and acquisitions. Our current and future expense levels are to a large extent fixed and are largely based on our investment plans and our estimates of future revenue. Because the timing and amount of revenue from our products and services are difficult to forecast, when revenue does not meet our expectations, we may not be able to adjust our spending promptly or reduce our spending to levels commensurate with our revenue. Even if we are able to successfully scale our infrastructure and operations while successfully diversifying our offering, we cannot assure you that demand for our products and services, including our Centrellis platform, will increase at levels consistent with the growth of our infrastructure. If we fail to generate demand commensurate with this growth or if we fail to scale our infrastructure sufficiently in advance of demand to successfully meet such demand, our business, prospects, financial condition and results of operations could be adversely affected.

***International expansion of our business could expose us to business, regulatory, political, operational, financial and economic risks associated with doing business outside of the United States.***

When cleared, authorized or approved, we and our collaborators may market, sell, and distribute our products and services outside of the United States, and our business would be subject to risks associated with doing business outside of the United States, including an increase in our expenses and diversion of our management's attention from the development of future products and services. Accordingly, our business and financial results in the future could be adversely affected due to a variety of factors, including:

- multiple, conflicting and changing laws and regulations such as privacy, security and data use regulations, tax laws, export and import restrictions, economic sanctions and embargoes, employment laws, anticorruption laws, regulatory requirements, reimbursement or payor regimes and other governmental;
- approvals, permits and licenses;
- failure by us, our collaborators or our distributors to obtain regulatory clearance, authorization or approval for the use of our products and services in various countries;
- additional potentially relevant third-party patent rights;
- complexities and difficulties in obtaining intellectual property protection and enforcing our intellectual property;
- difficulties in staffing and managing foreign operations, including repatriating foreign earned profits;
- complexities associated with managing multiple payor reimbursement regimes, government payors or patient self-pay systems;
- difficulties in negotiating favorable reimbursement negotiations with governmental authorities;
- logistics and regulations associated with shipping samples, including infrastructure conditions and transportation delays;
- limits in our ability to penetrate international markets if we are not able to conduct our clinical diagnostic services locally;

- financial risks, such as longer payment cycles, difficulty collecting accounts receivable, the impact of local and regional financial crises on demand and payment for our products and services and exposure to foreign currency exchange rate fluctuations;
- international regulations and license requirements that may restrict foreign investment in and operation of the internet, IT infrastructure, data centers and other sectors, and international transfers of data;
- natural disasters, political and economic instability, including wars, terrorism and political unrest, and outbreak of disease;
- boycotts, curtailment of trade and other business restrictions; and
- regulatory and compliance risks that relate to maintaining accurate information and control over sales and distributors' activities that may fall within the purview of the Foreign Corrupt Practices Act of 1977 ("FCPA"), its books and records provisions, or its anti-bribery provisions or laws similar to the FCPA in other jurisdictions in which we may in the future operate, such as the United Kingdom's Bribery Act of 2010 and anti-bribery requirements of member states in the European Union ("EU").

Any of these factors could significantly harm our future international expansion and operations and, consequently, our revenue and results of operations.

***Unfavorable U.S. or global economic conditions could adversely affect our business, financial condition or results of operations.***

Our results of operations could be adversely affected by general conditions in the global economy and financial markets. A severe or prolonged economic downturn or increase in inflation and interest rates could result in a variety of risks to our business, including weakened demand for our products and services, increased costs and expenses and a reduced ability to raise additional capital when needed on favorable terms, if at all. A weak declining or inflationary economy could also strain our collaborators and suppliers, resulting in supply disruption, or cause delays in their payments to us. For example, we have experienced interruptions in the supply of the diagnostic testing materials necessary for our testing products and material and shipping cost increases. We also have significant supply contracts that are short-term and, as we enter into the renewal cycles for these contracts, we may face material price increases upon renewal. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business, financial condition, or results of operations.

***We rely on a limited number of suppliers or, in some cases, single suppliers, for some of our laboratory instruments and materials and may not be able to find replacements or immediately transition to alternative suppliers or service providers.***

We have sourced and will continue to source components of our diagnostic testing workflow, including sequencers and other laboratory equipment, reagents, lab supplies and other laboratory services and materials and related services, from third parties.

Our failure to maintain a continued supply of our sequencers and other laboratory equipment, reagents, lab supplies and other laboratory services and materials, along with the right to use certain hardware and software and related services, would adversely impact our business, financial condition, and results of operations. In particular, while we are seeking to validate our tests on additional sequencing platforms we have not, to date, validated a viable alternative sequencing platform on which our testing could be run in a commercially viable manner. These efforts will require significant resources, expenditures and time and attention of management, and there is no guarantee that we will be successful in implementing any such sequencing platforms in a commercially sustainable way. We also cannot guarantee that we will appropriately prioritize or select alternative sequencing platforms on which to focus our efforts, in particular given our limited product and research and development resources and various business initiatives, which could result in increased costs and delayed timelines or otherwise adversely impact our business and results of operations.

Because we rely on third-party manufacturers, we do not control the manufacture of these components, including whether such components will meet our quality control requirements, nor the ability of our suppliers to comply with applicable legal and regulatory requirements. In many cases, our suppliers are not contractually required to supply these components to the quality or performance standards that we require. If the supply of components we receive does not meet our quality control or performance standards, we may not be able to use the components, or if we use them not knowing that they are of inadequate quality, which occasionally occurs with respect to certain reagents, our tests may not work



properly or at all, or may provide erroneous results, and we may be subject to significant delays caused by interruption in production or manufacturing or to lost revenue from such interruption or from spoiled tests. In addition, any natural or other disaster, acts of war or terrorism, shipping embargoes, labor unrest, political instability, outbreak of disease or similar events at our third-party manufacturers' facilities that cause a loss of manufacturing capacity would heighten the risks that it faces.

In the event of any adverse developments with our sole suppliers, or if any of our sole suppliers modifies any of the components they supply to us, our ability to supply our products may be interrupted, and obtaining substitute components could be difficult or require us to re-design or re-validate our products. Our failure to maintain a continued supply of components, or a supply that meets our quality control requirements, or changes to or termination of our agreements or inability to renew our agreements with these parties or enter into new agreements with other suppliers could result in the loss of access to important components of our tests and impact our test performance or affect our ability to perform our tests in a timely manner or at all, which could impair, delay or suspend our commercialization activities. In the event that we transition to a new supplier from any of our sole suppliers, doing so could be time-consuming and expensive, may result in interruptions in our ability to supply our products to the market, could affect the performance of our tests or could require that we re-validate our affected tests using replacement equipment and supplies, which could delay the performance of our tests, impact diagnostic solutions and health information derived from such tests, and result in increased costs. Any of these occurrences could have a material adverse effect on our business, financial condition and results of operations.

***We rely on a limited number of product and service providers for data infrastructure and analytics capabilities, and any disruption of, or interference with, our use of data and workflow services could adversely affect our business, financial condition, and results of operations, and we may not be able to find replacements or immediately transition to alternative products or service providers.***

We currently rely upon third-party services for data storage and workflow management, including cloud storage solution providers, such as Amazon Web Services, or AWS, and Google Cloud Platform, or GCP. We rely on each of AWS and GCP features to complete several vital workflows in our health information and data science service delivery. To varying degrees some of those services are proprietary to how each platform performs in connection with our current usage of the services. Further, we have also built several proprietary workflows with our vendor and partner Command Health where we maintain versions of developed software on such platforms.

Nearly all of our data storage and analytics are conducted on, and the data and content we generate on our platforms are processed through, servers hosted by these providers, particularly AWS and GCP. We also rely on email service providers, bandwidth providers, internet service providers and mobile networks to deliver communications to patients, physicians and partners and to allow patients, physicians and our partners to access various offerings from our platforms. If our third-party vendors are unable or unwilling to provide the services necessary to support our business, or if our agreements with such vendors are terminated, our operations could be significantly disrupted. Some of our vendor agreements may be unilaterally terminated by the licensor for convenience, including with respect to AWS or GCP, and if such agreements are terminated, we may not be able to enter into similar relationships in the future on reasonable terms or at all.

Any damage to, or failure of, our systems or the systems of our third-party data centers or our other third-party providers could result in interruptions to the availability or functionality of database and platforms. As a result, we could lose health information data and miss opportunities to acquire and retain patients, physicians and partners including health systems and pharmaceutical and biotech companies, which could result in decreased revenue. If for any reason our arrangements with our data centers or third-party providers are terminated or interrupted, such termination or interruption could adversely affect our business, financial condition and results of operations. We exercise little control over these providers, which increases our vulnerability to problems with the services they provide. We could incur additional expense in arranging for new or redesigned facilities, technology, services and support. In addition, the failure of our third-party data centers or any other third-party providers to meet our capacity needs or any system failure as a result of reliance on third parties, including network, software or hardware failure, which causes a delay or interruption in our services and products, including our ability to handle existing or increased processing of data on our platforms, could have a material adverse effect on our business, revenues, operating results and financial condition.

***Our current and future products and services may never achieve significant commercial market acceptance.***

Our success depends on the market's confidence that we can provide data-driven research and diagnostic products and services that improve clinical outcomes, lower healthcare costs and enable better product development by Biopharma companies. Failure of our products and services, or those jointly developed with our collaborators, to perform as expected

or to be updated to meet market demands could significantly impair our operating results and our reputation. We believe patients, health systems, clinicians, academic institutions and Biopharma companies are likely to be particularly sensitive to defects, errors, inaccuracies and delays with our products and services. Furthermore, inadequate performance of these products or services may result in lower confidence in our Centrellis platform in general.

We and our collaborators may not succeed in achieving significant commercial market acceptance for our current or future products and services due to a number of factors, including:

- Our ability to demonstrate the utility of our platforms including Centrellis and Traversa, and related products and services and their potential advantages over existing clinical artificial intelligence technology, life sciences research, clinical diagnostic and drug discovery technologies to academic institutions, Biopharma companies and the medical community;
- Our ability, and that of our collaborators, to perform clinical trials or other research to gather adequate evidence and/or to secure and maintain FDA and other regulatory clearance authorization or approval for our products or products developed based off our platform;
- the agreement by third-party payors to reimburse our products or services, the scope and extent of which will affect patients' willingness or ability to pay for our products or services and will likely heavily influence physicians' decisions to recommend our products or services;
- the rate of adoption of our platforms and related products and services by academic institutions, clinicians, patients, key opinion leaders, advocacy groups and Biopharma companies; and
- the impact of our investments in product and services, and technological innovation and commercial growth.

Additionally, our customers and collaborators, including the Mount Sinai Health System, which refer to together with its related entities as Mount Sinai, may decide to decrease or discontinue their use of our products and services due to changes in their research and development plans, failures in their clinical trials, financial constraints, the regulatory environment, negative publicity about our products and services, competing products or the reimbursement landscape, all of which are circumstances outside of our control. We may not be successful in addressing these or other factors that might affect the market acceptance of our products, services and technologies. Failure to achieve widespread market acceptance of our platform and related products and services would materially harm our business, financial condition and results of operations.

***Our projections are subject to significant risks, assumptions, estimates and uncertainties, including assumptions regarding adoption of our products and services. As a result, our projected revenues, market share, expenses and profitability may differ materially from our expectations in any given quarter or fiscal year.***

We operate in rapidly changing and competitive industries and our projections are subject to the risks and assumptions made by our management with respect to these industries. Operating results are difficult to forecast as they generally depend on our assessment of the timing of adoption of our current and future products and services, which is uncertain. Furthermore, as we invest in the continued development of new businesses that have yet to achieve significant commercial success, whether because of competition or otherwise, we may not recover the often substantial up-front costs of developing and marketing those products and services or recover the opportunity cost of diverting management and financial resources away from other products or services. Additionally, our business may be affected by reductions in customer or partner demand as a result of a number of factors which may be difficult to predict. Similarly, our assumptions and expectations with respect to margins and the pricing of our products and services may not prove to be accurate as a result of competitive pressures or customer or partner demands. This may result in decreased revenue, and we may be unable to adopt measures in a timely manner to compensate for any unexpected shortfall in revenue. This inability could cause our operating results in a given quarter or year to be higher or lower than expected. Any failure to achieve our projected operating results could harm the trading price of our securities and our financial position.

***We have estimated the sizes of the markets for our current and future products and services, and these markets may be smaller than we estimate.***

Our estimates of the annual addressable markets for our current products and services and those under development are based on a number of internal and third-party estimates, including, without limitation, the number of patients who have developed one or more of a broad range of cancers, the number of individuals who are at a higher risk for developing one or more of a broad range of cancers, the number of individuals who have developed or are at a higher risk of developing

certain disorders, the number of individuals with certain infectious diseases. The estimates also depend on whether we or our collaborators are able to engage, diagnose or treat patients through or using our products and services, the number of potential clinical tests utilized per treatment course per patient, the ongoing engagement by patients, physicians and health systems on our platforms, and the assumed prices at which we can sell our current and future products and services for markets that have not been established. While we believe our assumptions and the data underlying our estimates are reasonable, these assumptions and estimates may not be correct and the conditions supporting our assumptions or estimates may change at any time, thereby reducing the predictive accuracy of these underlying factors. As a result, our estimates of the annual addressable market for our current or future products and services may prove to be incorrect. If the actual number of patients who would benefit from our products or services, the price at which we can sell future products and services or the annual addressable market for our products or services is smaller than we have estimated, it may impair our sales growth and have an adverse impact on our business.

***Uncertainty in the development and commercialization of our enhanced or new tests or services could materially adversely affect our business, financial condition and results of operations.***

Our success will depend in part on our ability to effectively introduce enhanced or new offerings. The focus of our research and development efforts has expanded beyond our current products and services, focused substantially on women's health and oncology, as we are now also applying our expertise in processing and analyzing new areas, such as rare diseases. In recent years we have developed and/or launched several new products or enhanced versions of existing products, including products leveraging alternative sequencing technologies, and we expect to continue our efforts in all of these areas and more. The development and launch of enhanced or new tests requires the completion of certain clinical development and commercialization activities that are complex, costly, time-intensive and uncertain, and requires us to accurately anticipate patients', clinicians', payors' and other counterparties' attitudes and needs as well as emerging technology and industry trends. This process is conducted in various stages, and each stage presents the risk that we will not achieve our goals.

We have relatively limited experience developing and commercializing products and services outside of the fields of reproductive and women's health and pediatrics and NICU diagnostics, and we may not be successful in our current or future efforts to do so. We also have limited experience forecasting our future financial performance from our new products and services, and our actual results may fall below our financial guidance or other projections, or the expectations of analysts or investors, which could cause the price of our Class A common stock and warrants to decline. We may experience research and development, regulatory, marketing and other difficulties that could delay or prevent our introduction of enhanced or new tests and result in increased costs and the diversion of management's attention and resources from other business matters, such as from our current product and service offerings, which currently represent the significant majority of our current revenues. For example, any tests that we may enhance or develop may not prove to be clinically effective in clinical trials or commercially, or may not meet our desired target product profile, be offered at acceptable cost and with the sensitivity, specificity and other test performance metrics necessary to address the relevant clinical need or commercial opportunity; our test performance in commercial experience may be inconsistent with our validation or other clinical data; we may not be successful in achieving market awareness and demand, whether through our own sales and marketing operations or through collaborative arrangements; healthcare providers may not order or use, or third-party payors may not reimburse for, any tests that we may enhance or develop; or we may otherwise have to abandon a test or service in which we have invested substantial resources. For example, we are subject to the risk that the biological characteristics of the genetic mutations we seek to target, and upon which our technologies rely, are uncertain and difficult to predict. We may also experience unforeseen difficulties when implementing updates to our processes.

We cannot assure you that we can successfully complete the development of any new or enhanced product, or that we can establish or maintain the collaborative relationships that may be essential to our collaborators' goals, including clinical development or commercialization efforts. For example, clinical development requires large numbers of patient specimens and, for certain products, may require large, prospective, and controlled clinical trials. We may not be able to identify and help enroll patients or collect a sufficient amount of appropriate health data in a timely manner; or we may experience delays during data analysis process due to slower than anticipated supplies of patient data, or due to changes in study design or inputs, or other unforeseen circumstances; or we or our collaborators may be unable to afford or manage the large-sized clinical trials that some of our planned future products may require. Further, the publication of clinical data in peer-reviewed journals is a crucial step in commercializing and obtaining reimbursement for certain diagnostic solutions such as the ones offered by us, and our inability to control when, if ever, results are published may delay or limit our ability to derive sufficient revenues from any diagnostic solution that is the subject of or component in a study. Peer-reviewed publications regarding our products may be limited by many factors, including delays in the completion of, poor design of, or lack of compelling data from, clinical studies, as well as delays in the review, acceptance and publication process. If our diagnostic solutions or the technology underlying our current and future diagnostic solutions do not receive sufficient

favorable exposure in peer-reviewed publications, the rate of clinician adoption of our diagnostic solutions and positive reimbursement coverage determinations for our diagnostic solutions could be negatively affected.

In addition, development of the data necessary to obtain regulatory clearance and approval of tests is time-consuming and carries with it the risk of not yielding the desired results. The performance achieved in published studies may not be repeated in later studies that may be required to obtain premarket clearance or approval from the U.S. Food and Drug Administration (“FDA”). Limited results from earlier-stage verification studies may not predict results from studies in larger numbers of subjects drawn from more diverse populations over longer periods of time. Unfavorable results from ongoing preclinical and clinical studies may delay, limit or prevent regulatory approvals or clearances or commercialization of our product candidates, or could result in delays, modifications or abandonment of ongoing analytical or future clinical studies, or abandonment of a product development program, any of which could have a material adverse effect on our business, operating results or financial condition.

These and other factors beyond our control could result in delays or other difficulties in the research and development, approval, production, launch, marketing or distribution of enhanced or new tests and could adversely affect our competitive position and results of operations.

***We currently use, and in the future expect to increase our use of, information and rights from customers, strategic partners, and collaborators for several aspects of our operations, and if we cannot maintain current and enter new relationships with these parties with adequate access and authorization to such information, our business will suffer.***

Accessing, combining, curating, and analyzing health information, including longitudinal patient medical history data and genetic data, are core features of the Centrellis platform and key elements of our long term business model. The regulatory landscape around the storage, processing and deidentification of genetic data is evolving globally and greatly impacts the ability of us, our strategic partners and collaborators to process and use the data in connection with our products and services.

We have limited resources to conduct our health information services, data analysis, life sciences research, clinical diagnostics and drug discovery operations and have not yet fully established infrastructure for sales, marketing or distribution in connection with our products and services. Accordingly, we have entered into service and collaboration agreements under which our partners, including health systems, have provided, and may in the future provide, funding, data access, and other resources for developing and potentially commercializing our products and services. These collaborations may result in us incurring significant expenses in pursuit of potential products and services, and we may not be successful in identifying, developing or commercializing any potential products or services.

Our future success depends in part on our ability to maintain and grow our existing relationships, including with Mount Sinai, and to establish new relationships. Many factors may impact the success of such collaborations, including our ability to perform our obligations, our collaborators’ satisfaction with our products and services, our collaborators’ performance of their obligations to us, our collaborators’ internal priorities, resource allocation decisions and competitive opportunities, the ability to obtain regulatory approvals, disagreements with collaborators, the costs required of either party to the collaboration and related financing needs, and operating, legal and other risks in any relevant jurisdiction. Our ability to support such collaborations may also depend on factors outside of our control including the willingness of patients to engage with us and share their data, societal perspectives on privacy, and the willingness of health systems to establish collaborations, relationships and programs utilizing their data, all of which may impact the utility of these databases and the insights we will be able to generate from expanding datasets. In addition to reducing our revenue or delaying the development of our future products and services, the loss of one or more of these relationships may reduce our access to research, longitudinal patient health data, clinical trials or computing technologies that facilitate the collection and incorporation of new information into the databases we manage and to which we have access. All of the risks relating to product and service development, regulatory clearance, authorization or approval and commercialization described herein apply to us derivatively through the activities of our collaborators. We engage in conversations with companies regarding potential collaborations on an ongoing basis. These conversations may not result in a commercial agreement. Even if an agreement is reached, the resulting relationship may not be successful, and any products and services developed as part of the collaboration may not produce successful outcomes. Speculation in the industry about our existing or potential collaborations can be a catalyst for adverse speculation about us, or our products or services, which can adversely affect our reputation and our business.

***If our products and services do not perform as expected, we may not realize the expected benefits of such products and services.***

The success of our products depends on the market's confidence that we can provide reliable products and services that enable high quality diagnostic testing and health information services with high sensitivity and specificity and short turnaround times. There is no guarantee that the accuracy and reproducibility we have demonstrated to date will continue as our product deliveries increase and our product and service portfolio expands.

Our products and services use a number of complex and sophisticated biochemical and bioinformatics processes, many of which are highly sensitive to external factors. An operational, technological or other failure in one of these complex processes or fluctuations in external variables may result in sensitivity or specificity rates that are lower than we anticipate or result in longer than expected turnaround times. In addition, labs are required to validate their processes before using our products for clinical purposes. These validations are outside of our control. If our products do not perform, or are perceived to not have performed, as expected or favorably in it to competitive products, our operating results, reputation, and business will suffer, and we may also be subject to legal claims arising from product limitations, errors, or inaccuracies.

***If our sales and development or other collaborations and commercial relationships are not successful and we are not able to offset the resulting impact through our own efforts or through agreements with new partners, our commercialization activities may be impaired and our financial results could be adversely affected.***

Part of our business strategy is to develop relationships with health systems, biopharma companies, and other partners to utilize our products and to provide access to data. Developing and commercializing products with third parties reduces our control over such development and commercialization efforts and subjects us to the various risks inherent in a joint effort with a third party, such as delays, operational issues, technical difficulties and other contingencies outside of our influence or control. The financial condition of these third parties could weaken, or they could terminate their relationship with us and/or stop sharing data or other information; reduce their marketing efforts relating to our products; develop and commercialize, or otherwise utilize competing products in addition to or in lieu of our tests; merge with or be acquired by a competitor of us or a company that chooses to de-prioritize the efforts to utilize our products or provide us with adequate data; or otherwise breach their agreements with us. Further, we must expend resources to operationalize our existing collaborations with our health system partners, which requires substantial effort in areas such as integrations for testing workflow, EMR, consents, marketing, and billing. To the extent, we are not successful at operationalizing existing collaborations with health partners, we may not be able to further improve or pursue new agreements with additional partners. Furthermore, our partners may misappropriate our trade secrets or use our proprietary information in such a way as to expose us to litigation and potential liability; and our compliance risk may increase to the extent that we are responsible for our partners' activities. Disagreements or disputes with our health systems and other partners, including disagreements over customers, proprietary or other rights or our or their compliance with financial or other contractual obligations, might cause delays or impair the development or commercialization of our products, services, and technologies, lead to additional responsibilities for us with respect to new products, services and technologies, or result in litigation or arbitration, any of which would divert management attention and resources and be time-consuming and expensive. As is typical for companies in our industry, it is continually evaluating and pursuing various strategic or commercial relationships, some of which may involve the sale and issuance of our Class A common stock, which could result in additional dilution of the percentage ownership of our stockholders and could cause the price of our Class A common stock and warrants to decline.

If our relationships are not successful, our ability to develop and improve of products, services and technologies, and to successfully execute our commercial strategy regarding such products, services and technologies, could be compromised.

***If we are unable to deploy and maintain effective sales, marketing and medical affairs capabilities, we will have difficulty achieving market awareness and selling our products and services.***

To achieve commercial success for our tests and our future products and services, we must continue to develop and grow our sales, marketing and medical affairs organizations to effectively explain to healthcare providers the reliability, effectiveness and benefits of our current and future products and services as compared to alternatives. We may not be able to successfully manage our dispersed or inside sales forces or our sales force may not be effective. Because of the competition for their services, we may be unable to hire, partner with or retain additional qualified sales representatives or marketing or medical affairs personnel, either as our employees or independent contractors or through independent sales or other third-party organizations. Market competition for commercial, marketing and medical affairs talent is significant, and we may not be able to hire or retain such talent on commercially reasonable terms, if at all.

Establishing and maintaining sales, marketing and medical affairs capabilities will be expensive and time-consuming. Our expenses associated with maintaining our sales force may be disproportionate to the revenues we may be able to generate on sales of the certain tests or any future products or services.

***We may never become profitable.***

Sema4 has incurred losses since Sema4 was formed and we expect to continue to generate significant operating losses for the foreseeable future. As of September 30, 2022 and December 31, 2021, we have an accumulated deficit of approximately \$815.7 million and \$575.4 million, respectively. We expect to continue investing significantly toward development and commercialization of our health information technology and other products and services. If our revenue does not grow significantly, we will not be profitable. We cannot be certain that the revenue from the sale of any products or services based on our technologies will be sufficient to make us profitable.

***Our operating results could be subject to significant fluctuation, which could increase the volatility of our stock and warrant prices and cause losses to our stockholders.***

Our revenues and results of operations may fluctuate significantly, depending on a variety of factors, including the following:

- our success in marketing and selling, and changes in demand for, our tests, and the level of reimbursement and collection obtained for such tests;
- seasonal and environmental variations affecting healthcare provider recommendations for our tests and patient compliance with healthcare provider recommendations, including without limitation holidays, weather events, and circumstances such as the outbreak of coronavirus or influenza that may limit patient access to medical practices for diagnostic tests and preventive services;
- our success in collecting payments from third-party payors, patients and collaborative partners, variation in the timing of these payments and recognition of these payments as revenues;
- the pricing of our tests, including potential changes in CMS or other reimbursement rates;
- circumstances affecting our ability to provide our tests, including weather events, supply shortages, or regulatory or other circumstances that adversely affect our ability to manufacture our tests or process tests in our clinical laboratories;
- circumstances affecting our ability to provide health information and data science services to biopharma partners, including software or hardware failures, insufficient capacity, regulatory changes or other circumstances that adversely affect the ability of us to deliver these services;
- fluctuations in the amount and timing of our selling and marketing costs and our ability to manage costs and expenses and effectively implement our business;
- our research and development activities, including the timing of clinical trials; and
- our ability to collect, use, and commercialize data in a changing regulatory environment at a time when the public is growing increasingly concerned about privacy.

***Our revenue growth rate could decline over time, and it may experience downward pressure on our operating margins in the future.***

Our revenue growth rate could decline over time as a result of a number of factors, including increasing competition and the continued expansion of our business into a variety of new fields. Changes in geographic mix and product and service mix and an increasing competition for tests may also affect our revenue growth rate. We may also experience a decline in our revenue growth rate as our revenues increase to higher levels, if there is a decrease in the rate of adoption of our products, services, and technologies, among other factors.

In addition to a decline in our revenue growth rate, we may also experience downward pressure on our gross operating margins resulting from a variety of factors, such as the continued expansion of our business into new fields, including new products and services, as well as significant investments in new areas, all of which may have margins lower than those that we generate from testing. We may also experience downward pressure on our gross operating margins from increasing

competition and increased costs for many aspects of our business. We may also pay increased fees to our partners as well as increased acquisition costs. We may also face an increase in infrastructure costs, supporting other businesses. Additionally, our expenditures to promote new products and services or to distribute certain products and services or increased investment in our innovation efforts across our Centrellis platform may affect our operating margins.

Due to these factors and the evolving nature of our business, our historical projected revenue growth rate and historical gross operating margins may not be indicative of our future performance.

***We may need to raise additional capital to fund our existing operations, develop additional products and services, commercialize new products and services or expand our operations.***

Sema4 has incurred net losses and negative cash flows from operations since its inception, including net losses of \$245.4 million, \$241.3 million and \$29.7 million for the years ended December 31, 2021, 2020 and 2019, respectively. The net loss was \$240.2 million for the nine months ended September 30, 2022. As of September 30, 2022, we had an accumulated deficit of \$815.7 million. We expect to continue to generate significant operating losses for the foreseeable future.

We may seek to sell common or preferred equity or convertible debt securities, enter into a credit facility or another form of third-party funding or seek other debt financing. For example, we have an effective shelf registration statement filed with the SEC that permits us to sell from time to time up to \$300 million of additional shares of our Class A common stock or other securities in one or more offerings in amounts, at prices and on the terms that we will determine at the time of offering, although we do not intend to issue shares of our Class A common stock at current market prices.

We may also consider raising additional capital in the future to expand our business, to pursue strategic investments, to take advantage of financing opportunities or for other reasons, including to:

- increase our sales and marketing efforts to drive market adoption of our current and future products and services;
- fund development efforts for our current and future products and services;
- expand our products and services into other disease indications and clinical applications;
- acquire, license or invest in technologies;
- acquire or invest in complementary businesses or assets; and
- finance capital expenditures and general and administrative expenses.

Our present and future funding requirements will depend on many factors, including:

- our ability to achieve revenue growth;
- our rate of progress in establishing payor coverage and reimbursement arrangements with commercial third-party payors and government payors;
- the cost of expanding our laboratory operations and offerings, including our sales and marketing efforts;
- our rate of progress in, and cost of the sales and marketing activities associated with, establishing adoption of our Centrellis solution;
- our rate of progress in, and cost of research and development activities associated with, products and services in research and early development;
- the effect of competing technological, product and market developments;
- costs related to international expansion; and
- the potential cost of and delays in product development as a result of any regulatory oversight applicable to our products and services.

The various ways we could raise additional capital carry potential risks. If we raise funds by issuing equity securities, dilution to our stockholders could result. Any preferred equity securities issued also could provide for rights, preferences or



privileges senior to those of holders of our Class A common stock. If we raise funds by issuing debt securities, those debt securities would have rights, preferences and privileges senior to those of holders of our Class A common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement could impose significant restrictions on our operations. If we raise funds through collaborations and licensing arrangements, we might be required to relinquish significant rights to our technologies or products and services or grant licenses on terms that are not favorable to us. Further, although we expect our cash and cash equivalents will be sufficient to fund operations for at least the next twelve months from the date of filing of this Form 10-Q, in the future, our ability to continue as a going concern may be dependent, in part, on our ability to raise additional capital, and should we be unable to raise sufficient additional capital, we may be required to undertake cost-cutting measures including delaying or discontinuing certain planned investments or programs.

***We expect to make significant investments in our continued research and development of new products and services, which may not be successful.***

We are seeking to leverage and deploy our Centrellis and Traversa platforms to develop a pipeline of future disease-specific research, diagnostic and therapeutic products and services. For example, we are attempting to extend current products into additional indications and sample types, and we are developing our population health program, and our pharmacogenomics solutions with a view toward advancing the development of tests designed to identify genetic variants for drug response that are associated with medically actionable and clinically relevant data to make more informed treatment decisions. We expect to incur significant expenses to advance these development efforts, but they may not be successful.

Developing new products and services is a speculative and risky endeavor. Products or services that initially show promise may fail to achieve the desired results or may not achieve acceptable levels of analytical accuracy or clinical utility. We may need to alter our products in development and repeat analysis or clinical studies before we identify a potentially successful product or service. Product development is expensive, may take years to complete and can have uncertain outcomes. Failure can occur at any stage of the development. If, after development, a product or service appears successful, we or our collaborators may, depending on the nature of the product or service, still need to obtain FDA and other regulatory clearances, authorizations or approvals before we can market it. In the case of clinical products, the FDA's clearance, authorization or approval pathways are likely to involve significant time, as well as additional research, development and clinical study expenditures. The FDA may not clear, authorize or approve any future product or service we develop. Even if we develop a product or service that receives regulatory clearance, authorization or approval, or succeeds in initial product testing, we or our collaborators would need to commit substantial resources to commercialize, sell and market it before it could be profitable, and the product or service may never be commercially successful. Additionally, development of any product or service may be disrupted or made less viable by the development of competing products or services.

New potential products and services may fail at any stage of development or recalled after commercialization and if we determine that any of our current or future products or services are unlikely to succeed, we may abandon them without any return on our investment. If we are unsuccessful in developing additional products or services, our potential for growth may be impaired.

***We have identified material weaknesses, some of which have a pervasive effect across the organization, and may identify additional material weaknesses or significant deficiencies, in our internal controls over financial reporting. Our failure to remedy these matters could result in a material misstatement of our financial statements.***

In the course of preparing Legacy Sema4's financial statements for 2020, 2019 and 2018, we identified material weaknesses in our internal control over financial reporting as of December 31, 2020, which could, if not remediated, result in material misstatements in our financial statements. These material weaknesses had not been fully remediated as of September 30, 2022. In addition, during 2021, management identified a misclassification related to certain costs included within cost of services for the years ended December 31, 2021, 2020 and 2019. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses identified related to the fact that we did not design and maintain accounting policies, procedures and controls to ensure complete, accurate and timely financial reporting in accordance with U.S. GAAP. Specifically, the material weaknesses identified included the following:



- We did not design and maintain accounting policies, processes and controls to analyze, account for and report our revenue arrangements in accordance with ASC 606, Revenue from Contracts with Customers, and ASC 605, Revenue Recognition.
- We did not design and maintain formal accounting policies, procedures and controls to achieve complete, accurate and timely financial accounting, reporting and disclosures, including controls over the preparation and review of account reconciliations and journal entries; the accounting for cost capitalization policies in accordance with ASC 330, Inventory, and ASC 350-40, Intangibles – Goodwill and Other – Internal-Use Software; and the application of ASC 840, Leases.
- We had not developed and effectively communicated to our employees our accounting policies and procedures, which resulted in inconsistent practices. Since these entity level programs have a pervasive effect across the organization, management has determined that these circumstances constitute a material weakness.
- Our accounting and operating systems lacked controls over access, and program change management that are needed to ensure access to financial data is adequately restricted to appropriate personnel.
- We do not have sufficient, qualified finance and accounting staff with the appropriate U.S. GAAP technical accounting expertise to identify, evaluate and account for accounting and financial reporting, and effectively design and implement systems and processes that allow for the timely production of accurate financial information in accordance with internal financial reporting timelines, commensurate with our size and the nature and complexity of our operations. As a result, we did not design and maintain formal accounting policies, processes and controls related to complex transactions necessary for an effective financial reporting process.

Our management is in the process of implementing a remediation plan that is expected to include policies and procedures to support internal control over financial reporting for a public company as well as supplementing the accounting and finance function with robust technical accounting and financial reporting experience and training. However, we cannot guarantee that the steps we have taken or may subsequently take have been or will be sufficient to remediate the material weaknesses or ensure that our internal controls are effective. For a discussion of our remediation plan and actions, see “Item 4. Controls and Procedures.” However, as noted above, as of September 30, 2022, the material weaknesses have not yet been fully remediated.

Furthermore, as a public company, we are required to comply with certain rules and requirements related to our disclosure controls and procedures and our internal control over financial reporting. Any failure to develop or maintain effective controls as a public company, any deficiencies found in the technology system we use to support our controls, or any difficulties encountered in their implementation or improvement, could harm our operating results or cause us to fail to meet our reporting obligations and may result in a restatement of our financial statements for prior periods. For more information, see “*Risks Related to Being a Public Company—Our internal controls over financial reporting may not be effective and our independent registered public accounting firm may not be able to certify as to their effectiveness, which could have a significant and adverse effect on our business and reputation.*”

***Our ability to use our net operating loss carry forwards and certain other tax attributes may be limited.***

At December 31, 2021, our total gross deferred tax assets were \$160.5 million. Due to our lack of earnings history, future deductible temporary differences related to compensation and uncertainties surrounding our ability to generate future taxable income, our net deferred tax assets have been fully offset by a valuation allowance. The deferred tax assets are primarily comprised of federal and state tax net operating losses and tax credit carryforwards, stock-based compensation and other tax deductible temporary differences.

Furthermore, under Section 382 of the Internal Revenue Code of 1986, as amended (“Internal Revenue Code”), if a corporation undergoes an “ownership change,” the corporation’s ability to use its pre-change net operating loss carryforwards (“NOLs”), and other pre-change tax attributes (such as research tax credits) to offset its future taxable income may be limited. In general, an “ownership change” occurs if there is a cumulative change in its ownership by “5% shareholders” that exceeds 50 percentage points over a rolling three-year period. Our existing NOLs and tax credit carryovers may be subject to limitations arising from previous ownership changes, and if we undergo one or more ownership changes in connection with completed acquisitions, including the business combination with CMLS or the Acquisition, or future transactions in our stock, our ability to utilize NOLs and tax credit carryovers could be further limited by Section 382 of the Internal Revenue Code. As a result, if we earn future taxable income, our ability to use our pre-change net operating loss and tax credit carryforwards to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us. In addition, the Tax Cuts and Jobs Act limits the deduction for NOLs to 80% of current year taxable income and eliminates NOL carrybacks. Further, there may

also be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state liability.

## **Risks Related to Our Key Relationships**

### ***We rely on third-party laboratories to perform certain elements of our service offerings.***

A limited but meaningful portion of our genomic analysis services is performed by third-party laboratories and service providers, while the remaining portion is performed in our laboratories. The third-party laboratories are subject to contractual obligations to perform these services for us, but are not otherwise under our control. We therefore do not control the capacity and quality control efforts of these third-party laboratories other than through our ability to enforce contractual obligations on volume and quality systems, and we have no control over such laboratories' compliance with applicable legal and regulatory requirements. We also have no control over the timeliness of such laboratories' performance of their obligations to us, and the third-party laboratories that we have contracted with have in the past had, and occasionally continue to have, issues with delivering results to us or resolving issues with us within the time frames we expected or established in our contracts with them, which sometimes results in longer than expected turnaround times for, or negatively impacts the performance of, these tests and services. In the event of any adverse developments with these third-party laboratories or their ability to perform their obligations in a timely manner and in accordance with the standards that we and our customers expect, our ability to service customers may be delayed, interrupted or otherwise adversely affected, which could result in a loss of customers and harm to our reputation. Furthermore, when these issues arise, we have had to expend time, management's attention and other resources to address and remedy such issues.

We may not have sufficient alternative backup if one or more of the third-party laboratories that we contract with are unable to satisfy their obligations to us with sufficient performance, quality and timeliness. Any natural or other disaster, acts of war or terrorism, shipping embargoes, labor unrest, political instability, outbreaks of disease or similar events at one or more of these third-party laboratories' facilities that causes a loss of capacity would heighten the risks that we face. Changes to or termination of agreements or inability to renew agreements with these third-party laboratories or enter into new agreements with other laboratories that are able to perform such portions of our service offerings could impair, delay or suspend our efforts to market and sell these services. In addition, certain third-party payors, including some state Medicaid payors, that we are under contract with may take the position that sending out testing to third-party laboratories and billing for such tests is contrary to the terms of its provider agreement and may refuse to pay us for the testing. If any of these events occur, our business, financial condition and results of operations could suffer. Further, some state laws impose anti-markup restrictions that prevent an entity from realizing a profit margin on outsourced testing. If we are unable to markup outsourced testing, our revenues and operating margins may suffer.

### ***We rely on Mount Sinai, a related party, and its clinicians for a portion of our test volume in connection with our diagnostic solutions and for data programs, and we have entered into certain other arrangements with Mount Sinai.***

We rely on Mount Sinai, which is a related party, and its clinicians for a portion of our test volumes in connection with our diagnostic solutions and for substantially all of the de-identified clinical records in our databases. In addition, we sublease certain facilities from Mount Sinai, we provide certain research and data services to Mount Sinai, and we and Mount Sinai have entered into certain collaborative and commercial arrangements. Certain of our employees perform duties for or on behalf of Mount Sinai. Furthermore, we may in the future enter into other contracts for services or other engagements with Mount Sinai.

Mount Sinai is primarily made up of not-for-profit hospitals, a medical and graduate school and employed clinicians. The charitable missions of the Mount Sinai entities include patient care, teaching and research. As such, the Mount Sinai entities are required to deal with us strictly on an arms-length, fair market value basis, and the interests of Mount Sinai may not necessarily be aligned with our interests or those of our other stockholders.

We are subject to risks as a result of our reliance on Mount Sinai, and if our transactions and relationship with Mount Sinai were to cease, our business could be disrupted and it could have a material adverse effect on our business, research, financial condition and results of operations.

In addition, Icahn School of Medicine at Mount Sinai, or ISMMS is one of our significant stockholders. ISMMS may choose to dispose of some or all of the shares of our Class A common stock held by it. Any disposal of shares of Class A common stock by ISMMS, or the perception that these sales could occur, could cause the market price of our stock or warrants to decline.

***We rely on commercial courier delivery services to transport samples to our facilities in a timely and cost-efficient manner and if these delivery services are disrupted, our business could be harmed.***

Our core business depends on our ability to quickly and reliably deliver test results to our customers. We typically receive blood, saliva, or tissue samples for analysis at our laboratory facilities within days of collection from the patient. Disruptions and errors in these delivery service and accessioning errors and breaches, whether due to error by the courier service, labor disruptions, bad weather, natural disaster, terrorist acts or threats, outbreaks of disease or for other reasons, could adversely affect specimen integrity, our ability to process or store samples in a timely manner and to service our customers, and ultimately our reputation and our business. In addition, if we are unable to continue to obtain expedited delivery services on commercially reasonable terms, our operating results may be adversely affected.

#### **Risks Related to Acquisitions and Other Strategic Transactions**

***As a result of the Acquisition, OPKO became a substantial holder of shares of our Class A common stock and sales by OPKO into the market in the future could cause the market price of our Class A common stock to drop significantly, even if our business is doing well.***

As a result of the Acquisition, OPKO became the owner of 80 million shares of Class A common stock as of the Closing Date. OPKO is subject to transfer restrictions and requirements to dispose of its shares in marketed sales processes under the shareholder agreements that were entered into in connection with the Acquisition, but those restrictions and requirements are finite and subject to exceptions.

If the shares held by OPKO or the other holders party such shareholder agreements are sold, or if it is perceived that they will be sold in the public market, the trading price of our Class A common stock could decline.

***Our ability to be successful is dependent following the Acquisition depends upon our efforts to integrate Sema4's and GeneDx's business and operations, and the anticipated benefits of the Acquisition may not be realized fully or at all or may take longer to realize than expected.***

The Acquisition involves the integration of two companies that have previously operated independently. Prior to the announcement, we and GeneDx did not conduct any integration planning for the two companies, and our ability to do so prior to consummation of the Acquisition was limited by applicable law. Following the closing of the Acquisition, we are devoting significant management attention and resources to integrating the two businesses. Delays in this process could adversely affect the combined company's business, financial results, financial condition and stock price. Even if we are able to integrate the two companies' business operations successfully, there can be no assurance that this integration will result in the realization of the full benefits of synergies, cost savings, innovation and operational efficiencies that we expected from this integration or that these benefits will be achieved within the anticipated time frame.

***Our ability to be successful is further dependent upon the efforts of our key personnel, including the key personnel of GeneDx following the Acquisition. The loss of key personnel could negatively impact our operations and profitability our financial condition could suffer as a result.***

Our ability to be successful is dependent upon the efforts of our key personnel, including the key personnel of GeneDx who became our employees as of the closing of the Acquisition. Although our key personnel are expected to continue to remain with the Company in their current roles, it is possible that we will lose some key personnel, the loss of which could negatively impact the operations and profitability of our business.

GeneDx's success depends to a significant degree upon the continued contributions of senior management, certain of whom would be difficult to replace. Departure by certain of GeneDx's officers could have a material adverse effect on GeneDx's business, financial condition, or operating results. The services of such personnel may not continue to be available to us.

***We have incurred and will continue to incur significant transaction and transition costs in connection with the Acquisition.***

We have incurred significant, non-recurring costs in connection with consummating the Acquisition. Furthermore, we expect to incur additional significant, non-recurring costs in connection with the integration of the businesses of our Company and GeneDx. We may also incur additional costs to retain key employees.

***If the Acquisition's benefits do not meet the expectations of investors, stockholders or financial analysts, the market price of our securities may decline.***

If the benefits of the Acquisition do not meet the expectations of investors or securities analysts, the market price of our securities may decline. For additional factors that may affect the trading price of our securities see “—Risks Related to Being a Public Company—If we do not meet the expectations of investors, stockholders or financial analysts, the market price of our securities may decline.”

***We may be unable to realize the level of the anticipated benefits that we expect from exiting businesses and restructuring our operations, which may adversely impact our business and results of operations.***

From time to time, we may decide to exit certain businesses or otherwise undertake restructuring, reorganization, or other strategic initiatives and business transformation plans to realign our resources with our growth strategies, operate more efficiently and control costs. The successful implementation of our restructuring activities may from time to time require us to effect business and asset dispositions, workforce reductions, management restructurings, decisions to limit investments in or otherwise exit businesses, facility consolidations and closures, and other actions, each of which may depend on a number of factors that may not be within our control. For example, as described in more detail elsewhere in this Quarterly Report, we have announced plans to exit our reproductive and women's health testing business and exit our somatic tumor testing business.

Any such effort to realign or streamline our organization may result in the recording of restructuring or other charges, such as asset impairment charges, contract and lease termination costs, exit costs, termination benefits, and other restructuring costs. In particular, we expect that material cash and non-cash charges will be incurred and recorded in our future reporting periods as a result of the exit of the reproductive and women's health testing and somatic tumor testing businesses. Further, as a result of restructuring initiatives, we may experience a loss of continuity, loss of accumulated knowledge and proficiency, adverse effects on employee morale, loss of key employees and/or other retention issues during transitional periods. Reorganization and restructuring can impact a significant amount of management and other employees' time and focus, which may divert attention from operating and growing our business. Further, upon completion of any restructuring initiatives, our business may not be more efficient or effective than prior to the implementation of the plan and we may be unable to achieve anticipated operating enhancements or cost reductions, which would adversely affect our business, competitive position, operating results and financial condition.

***We have assumed GeneDx's risks arising from various legal proceedings.***

In connection with the Acquisition, as of the Closing, we assumed GeneDx's risks arising from legal proceedings. In particular, GeneDx has received from the Medicaid offices of certain states requests for refunds of up to approximately \$1.8 million of previously issued reimbursements for certain services and testing provided by GeneDx both prior to and following the Acquisition. This amount represents the initial amounts expressed in writing by the Medicaid offices as well as our estimate based on our participation in discussions with OPKO and the Medicaid offices. We are working with OPKO to investigate these issues and in discussions with these payors regarding their requests and, at this time, we can express no opinion as to the likelihood of an unfavorable outcome or the range of potential loss in this matter. Although we expect OPKO's indemnification obligations under the Acquisition Merger Agreement would apply to certain of the requested refunds related to the services and testing provided prior to the closing of the Acquisition, we would be responsible for any refunds related to services and testing provided after the Closing of the Acquisition. Furthermore, following the Closing of the Acquisition, the strategies or motivations of a party or parties with respect to actual or potential litigation against us may change. We cannot predict with certainty the eventual outcome of GeneDx's pending or future legal proceedings and the ultimate outcome of such matters could be material to our results of operations, cash flows and financial condition.

Finally, the Acquisition may result in post-transaction disputes with OPKO or the other counterparties to the Acquisition Merger Agreement and the related agreements regarding a number of matters, including any post-closing adjustments to the Cash Consideration, the occurrence or non-occurrence of any Milestone Event (as defined in the Acquisition Merger Agreement for the Acquisition) or payment of any Milestone Payment (as defined in the Acquisition Merger Agreement) or any liabilities for which we or OPKO believes it was indemnified under the Acquisition Merger Agreement.

***We may seek to grow our business through additional acquisitions of complementary products or technologies and we may from time to time dispose of businesses or assets, and the failure to manage these acquisitions or dispositions, or the failure to integrate acquired businesses with our existing business, could have a material adverse effect on our business, financial condition and operating results.***

From time to time, we may consider additional opportunities to acquire other products or technologies that may enhance our product platform or technology, expand the breadth of our markets or customer base, or advance our business strategies. In addition, we plan to exit our reproductive and women's health testing business and our somatic tumor testing business, which may involve a divestiture of these businesses, and we may consider disposing other assets or businesses in the future.

Potential acquisitions involve numerous risks, including:

- problems assimilating the acquired products or technologies;
- issues maintaining uniform standards, procedures, controls and policies;
- unanticipated costs associated with acquisitions;
- diversion of management's attention from our existing business;
- risks associated with entering new markets in which we have limited or no experience; and
- increased legal and accounting costs relating to the acquisitions or compliance with regulatory matters.

We do not know if we will be able to identify any other acquisitions we deem suitable, whether we will be able to successfully complete any acquisitions on favorable terms or at all, or whether we will be able to successfully integrate any acquired products or technologies. Our potential inability to integrate any acquired products or technologies effectively may adversely affect our business, operating results and financial condition.

Dispositions may similarly involve risks associated with the potential disruption of our ongoing business and distraction of our management team, and the anticipated benefits and cost savings of these transactions may not be realized fully, or at all, or take longer to realize than anticipated. In addition, dispositions may involve our continued financial involvement in a divested business, such as through continuing equity ownership, transition service agreements, guarantees, indemnities or other current or contingent financial obligations. Under these arrangements, performance by the acquired or divested business, or other conditions outside our control, could affect our future financial results.

### **Risks Related to Legal, Regulatory and Compliance**

***We may be subject to increased compliance risks as a result of our rapid growth, including our dependence on our sales, marketing and billing efforts.***

We have had to expand our training and compliance efforts in line with our increasing reliance on personnel in our sales, marketing and billing functions, and our expansion of these functions in line with the overall growth in our business. We continue to monitor our personnel, but we have in the past experienced, and may in the future experience, situations in which employees fail to strictly adhere to our policies. In addition, sales and marketing activities in the healthcare space are subject to various rules and regulations. Moreover, our billing and marketing messaging can be complex and nuanced, and there may be errors or misunderstandings in our employees' communication of such messaging. Furthermore, we utilize text messaging, email, phone calls and other similar methods to communicate with patients who are existing or potential users of our products for various business purposes. These activities subject us to laws and regulations relating to communications with consumers, such as the CAN-SPAM Act and the Telephone Consumer Protection Act, violations of which could subject us to claims by consumers, who may seek actual or statutory damages, which could be material in the aggregate. As we continue to scale up our sales and marketing efforts in line with the growth in our business, in particular our increased pace of product launches as well as further geographical expansion, we face an increased need to continuously monitor and improve our policies, processes and procedures to maintain compliance with a growing number and variety of laws and regulations, including with respect to consumer marketing. To the extent that there is any violation, whether actual, perceived or alleged, of our policies or applicable laws and regulations, we may incur additional training and compliance costs, may receive inquiries from third-party payors or other third parties, or be held liable or otherwise responsible for such acts of non-compliance. Any of the foregoing could adversely affect our cash flow and financial condition.

***If we use hazardous materials in a manner that causes injury, we could be liable for resulting damages.***

Our activities currently require the use of hazardous chemicals and biological material. We cannot eliminate the risk of accidental contamination or injury to employees or third parties from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our resources or any applicable insurance coverage we may have. Additionally, we are subject on an ongoing basis

to federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. The cost of compliance with these laws and regulations may become significant, and our failure to comply may result in substantial fines or other consequences, and either could negatively affect our operating results.

***We and our partners will have to maintain compliance with FDA requirements for research, products and services and failure to maintain compliance with FDA requirements may prevent or delay the marketing of our products and services.***

Even if we have obtained marketing authorization, we will have to comply with the scope of that clearance, authorization or approval. Failure to secure and to comply with clearance, authorization or approval or the additional, extensive and ongoing post-marketing obligations imposed by the FDA or other regulatory requirements of other regulatory agencies could result in unanticipated compliance expenditures, a range of administrative enforcement actions, injunctions and criminal prosecution. FDA post-market obligations include, among other things, compliance with the FDA QSR, establishing registration and device listings, labeling requirements, reporting of certain adverse events and malfunctions, and reporting of certain recalls. In addition, circumstances may arise that cause us to recall equipment used in connection with our research, products and services. Such recalls could have an adverse effect on our ability to provide those products and services, which in turn would adversely affect our financial condition. Our collaborators will also be required to maintain FDA clearance, authorization or approval for the products and services that we jointly develop. Any failure by us or our collaborators to maintain such clearance, authorization or approval could impair or cause a delay in our ability to profit from these collaborations.

***Future changes in FDA enforcement discretion for LDTs could subject our operations to much more significant regulatory requirements.***

We currently offer a laboratory-develop test (“LDT”) version of certain tests. The FDA has a policy of enforcement discretion with respect to LDTs, whereby the FDA does not actively enforce its medical device regulatory requirements for such tests. However, in October 2014, the FDA issued two draft guidance documents stating that the FDA intended to modify its policy of enforcement discretion with respect to LDTs in a risk-based manner consistent with the existing classification of medical devices. Although the FDA halted finalization of the guidance in November 2016 to allow for further public discussion on an appropriate oversight approach to LDTs and to give Congressional authorizing committees the opportunity to develop a legislative solution, it is unclear if Congress or the FDA will modify the current approach to the regulation of LDTs in a way that would subject our current or future services marketed as LDTs to the enforcement of FDA regulatory requirements. The FDA Commissioner and the Director of the Center for Devices and Radiological Health (“CDRH”) have expressed significant concerns regarding disparities between some LDTs and *in vitro* diagnostics that have been reviewed, cleared, authorized or approved by the FDA. If the FDA were to determine that certain tests offered by us as LDTs are not within the policy for LDTs for any reason, including new rules, policies or guidance, or due to changes in statute, our tests may become subject to extensive FDA requirements or our business may otherwise be adversely affected. If the FDA were to disagree with our LDT status or modify our approach to regulating LDTs, we could experience reduced revenue or increased costs, which could adversely affect our business, prospects, results of operations and financial condition. If required, the regulatory marketing authorization process required to bring our current or future LDTs into compliance may involve, among other things, successfully completing additional clinical validations and submitting to and obtaining clearance from the FDA for a premarket clearance (510(k)) submission or authorization for a *de novo* or approval of a PMA. Furthermore, pending legislative proposals, if passed, such as the VALID Act, could create new or different regulatory and compliance burdens on us and could have a negative effect on our ability to keep products on the market or develop new products, which could have a material effect on our business. In the event that the FDA requires marketing authorization of our LDTs in the future, the FDA may not ultimately grant any clearance, authorization or approval requested by us in a timely manner, or at all. In addition, if the FDA inspects our laboratory in relation to the marketing of any FDA-authorized test, any enforcement action the FDA takes might not be limited to the FDA-authorized test carried by us and could encompass our other testing services.

Recently, the FDA has also taken a more active role in certain diagnostic areas, including the oversight of pharmacogenetic (“PGx”) tests. In 2019, the FDA contacted several laboratories to demand changes to PGx test reports and marketing materials. In February 2020, the FDA issued a statement indicating that it continues to have concerns about the claims that certain clinical laboratories make with respect to their PGx tests, and published tables that list PGx associations for which the FDA has determined that the data support therapeutic management recommendations, a potential impact on safety or response, or a potential impact on pharmacokinetic properties only, respectively. To date, however, the FDA has not provided any general guidance on the types of claims or other characteristics that will cause a PGx test to fall outside FDA’s enforcement discretion. As such, the extent to which the FDA will allow any laboratory to offer PGx tests in their current form without meeting FDA regulatory requirements for medical devices is unclear at this time.

***For each product and service we are developing that may require FDA premarket review prior to marketing, the FDA may not grant clearance, authorization or premarket approval and failure to obtain necessary approvals for our future products and services would adversely affect our ability to grow our business.***

Before we begin to manufacture, label and market additional clinical diagnostic products for commercial diagnostic use in the United States, we may be required to obtain either clearance, marketing authorization or approval from the FDA, unless an exemption applies or the FDA exercises its enforcement discretion and refrains from enforcing its requirements. For example, the FDA currently has a policy of refraining from enforcing its medical device requirements with respect to LDTs, which the FDA considers to be a type of *in vitro* diagnostic test that is designed, manufactured and used within a single properly licensed laboratory.

The process of obtaining PMA is much more rigorous, costly, lengthy and uncertain than the 510(k) clearance process. In the PMA approval process, the FDA must determine that a proposed device is safe and effective for its intended use based, in part, on extensive data, including, but not limited to, technical, preclinical, clinical trial, manufacturing and labeling data. Conversely, in the 510(k) clearance process, the FDA must determine that a proposed device is “substantially equivalent” to a legally marketed “predicate” device in order for the product to be cleared for marketing. To be “substantially equivalent,” the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics or if it has different technological characteristics as the predicate device, the proposed device must be as safe and effective as, and not raise different questions of safety or effectiveness than, the predicate device. Clinical data is sometimes required to support substantial equivalence. For lower-risk devices that would otherwise automatically be placed into Class III, which require a PMA because no predicate device is available and the devices do not fall within an existing 510(k)-exempt classification, an applicant may submit a *de novo* request to down classify the device into Class II or Class I, which would not require a PMA. In the *de novo* process, the FDA must determine that general and special controls are sufficient to provide reasonable assurance of the safety and effectiveness of a device, which is low to moderate risk and has no predicate. In other words, the applicant must justify the “down-classification” to Class I or II for a new product type that would otherwise automatically be placed into Class III, but is lower risk. Clinical data may be required. For laboratory tests for which FDA clearance, authorization or approval is required, the FDA may also require data to support analytical and clinical validity.

The 510(k), *de novo* and PMA processes can be expensive and lengthy and require the payment of significant fees, unless an exemption applies. The FDA’s 510(k) clearance pathway usually takes from three to nine months from submission, but it can take longer for a novel type of product. The FDA’s *de novo* classification pathway usually takes from six to 12 months, but for many applicants can take up to 18 months or more.

The process of obtaining a PMA generally takes from one to three years, or even longer, from the time the PMA is submitted to the FDA until an approval is obtained. Any delay or failure to obtain necessary regulatory clearances, authorizations or approvals would have a material adverse effect on our business, financial condition and prospects.

The FDA can delay, limit or deny clearance, authorization or approval of a device for many reasons, including:

- the inability to demonstrate to the satisfaction of the FDA that the products are safe or effective for their intended uses;
- the disagreement of the FDA with the design, conduct or implementation of the clinical trials or the analysis or interpretation of data from preclinical studies, analytical studies or clinical trials;
- serious and unexpected adverse device effects experienced by participants in clinical trials;
- the data from preclinical studies, analytical studies and clinical trials may be insufficient to support clearance, authorization or approval, where required;
- the inability to demonstrate that the clinical and other benefits of the device outweigh the risks;
- an advisory committee, if convened by the FDA, may recommend against approval of a PMA or other application or may recommend that the FDA require, as a condition of approval, additional preclinical studies or clinical trials, limitations on approved labeling or distribution and use restrictions, or even if an advisory committee makes a favorable recommendation, the FDA may still not approve the product;
- the FDA may identify deficiencies in our marketing application;



- the FDA may identify deficiencies in our or our collaborators' manufacturing processes, facilities or analytical methods;
- the potential for policies or regulations of the FDA or applicable foreign regulatory bodies to change significantly in a manner rendering clinical data or regulatory filings insufficient for clearance, authorization or approval; and
- the FDA or foreign regulatory authorities may review clinical trial data and conclude that the data is not sufficiently reliable to support a PMA.

There are numerous FDA personnel assigned to review different aspects of marketing submissions, which can present uncertainties based on their ability to exercise judgment and discretion during the review process. During the course of review, the FDA may request or require additional data and information, and the development and provision of these data and information may be time-consuming and expensive. The process of obtaining regulatory clearances, authorizations or approvals to market a medical device can be costly and time-consuming, and we may not be able to obtain these clearances, authorizations or approvals on a timely basis, or at all for our products in development. If we are unable to obtain clearance, authorization or approval for any products for which it plans to seek clearance, authorization or approval, our business may be harmed.

***Modifications to our products with FDA marketing authorization may require new FDA clearances, authorizations or approvals, or may require it to cease marketing or recall the modified clinical diagnostic products or future clinical products until clearances are obtained.***

Any modification to a 510(k)-cleared device that significantly affects its safety or effectiveness, or that constitutes a major change in its intended use, could require a new 510(k) clearance, a new *de novo* authorization or approval of a PMA. The FDA requires every manufacturer to make this determination in the first instance, but the FDA may review any manufacturer's decision. The FDA may not agree with our decisions regarding whether new clearances, authorizations or approvals are necessary.

For any product approved pursuant to a PMA, we would be required to seek supplemental approval for many types of modifications to the approved product. The FDA requires manufacturers in the first instance to determine whether a PMA supplement or other regulatory filing is needed or whether the change may be reported via the PMA Annual Report, but may disagree with a company's assessment.

If the FDA disagrees with our determination, which it may not review until we submit an annual report or the FDA conducts an inspection or other inquiry, and requires us to seek new clearances, authorizations or approvals for modifications to our previously cleared, authorized or approved clinical diagnostic products for which we have concluded new clearances, authorizations or approvals are unnecessary, we may be required to cease marketing or distribution of these clinical diagnostic products or to recall the modified products until we obtain clearance, authorization or approval. We may also be subject to enforcement action, including, among other things, significant regulatory fines or penalties.

In addition, for example, we plan to match our test reports for certain indications to identified mutations with FDA-approved targeted therapies or relevant clinical trials of targeted therapies. If a patient or physician who orders a test using one of our products is unable to obtain, or be reimbursed for the use of, targeted therapies because they are not indicated in the FDA-approved label for treatment, the patient is unable to enroll in an identified clinical trial due to the enrollment criteria of the trial, or some other reason, the ordering physician may conclude the test report does not contain actionable information. If physicians do not believe our products consistently generate actionable information about their patients' disease or condition, they may be less likely to use our products.

Furthermore, we cannot provide assurance that customers will always use these products in the manner in which they are intended. Any intentional or unintentional misuse of these products by customers could lead to substantial civil and criminal monetary and non-monetary penalties, and could result in significant legal and investigatory fees.

***Our business is subject to various complex laws and regulations applicable to clinical diagnostics. We could be subject to significant fines and penalties if we or our partners fail to comply with these laws and regulations.***

As a provider of clinical diagnostic products and services, we and our partners are subject to extensive and frequently changing federal, state, local and foreign laws and regulations governing various aspects of our business.

In particular, the clinical laboratory and healthcare industry is subject to significant governmental certification and licensing regulations, as well as federal, state and foreign laws regarding:



- test ordering and billing practices;
- marketing, sales and pricing practices;
- health information privacy and security, including HIPAA and comparable state laws;
- insurance;
- anti-markup legislation;
- fraud and abuse; and
- consumer protection.

We are also required to comply with FDA regulations, including with respect to our labeling and promotion activities. In addition, advertising and marketing of our clinical products are subject to regulation by the Federal Trade Commission (“FTC”), and advertising of laboratory services is regulated by certain state laws. Violation of any FDA requirement could result in enforcement actions, such as seizures, injunctions, civil penalties and criminal prosecutions, and violation of any FTC or state law requirement could result in injunctions and other remedies, all of which could have a material adverse effect on our business. Most states also have similar regulatory and enforcement authority for devices. Additionally, most foreign countries have authorities comparable to the FDA and processes for obtaining marketing approvals. Obtaining and maintaining these approvals, and complying with all laws and regulations, may subject us to similar risks and delays as those we could experience under FDA, FTC and state regulation. We incur various costs in complying and overseeing compliance with these laws and regulations. The growth of our business and sales organization, the acquisition of additional businesses or products and services and our expansion outside of the U.S. may increase the potential of violating these laws, regulations or our internal policies and procedures.

Healthcare policy has been a subject of extensive discussion in the executive and legislative branches of the federal and many state governments and healthcare laws and regulations are subject to change. Development of the existing commercialization strategy for our tests and planned development of products in our pipeline has been based on existing healthcare policies. We cannot predict what additional changes, if any, will be proposed or adopted or the effect that such proposals or adoption may have on our business, financial condition and results of operations.

If we or our partners, fail to comply with these laws and regulations, it could incur significant fines and penalties and our reputation and prospects could suffer. Additionally, any such partners could be forced to cease offering our products and services in certain jurisdictions, which could materially disrupt our business. An adverse outcome could include us being required to pay treble damages, incur civil and criminal penalties, paying attorneys’ fees, entering into a corporate integrity agreement, being excluded from participation in government healthcare programs, including Medicare and Medicaid, and other adverse actions that could materially and adversely affect our business, financial condition and results of operations.

***Compliance with the HIPAA security, privacy and breach notification regulations may increase our costs.***

The HIPAA privacy, security and breach notification regulations, including the expanded requirements under HITECH, establish comprehensive federal standards with respect to the uses and disclosures of protected health information (“PHI”), by health plans, healthcare providers and healthcare clearinghouses, in addition to setting standards to protect the confidentiality, integrity and security of PHI. The regulations establish a complex regulatory framework on a variety of subjects, including:

- the circumstances under which uses and disclosures of PHI are permitted or required without a specific authorization by the patient, including but not limited to treatment purposes, activities to obtain payments for our services, and our healthcare operations activities;
- a patient’s rights to access, amend and receive an accounting of certain disclosures of PHI;
- requirements to notify individuals if there is a breach of their PHI;
- the contents of notices of privacy practices for PHI;
- administrative, technical and physical safeguards required of entities that use or receive PHI;

- deidentification of PHI; and
- the protection of computing systems maintaining electronic PHI.

We have implemented practices intended to meet the requirements of the HIPAA privacy, security and breach notification regulations, as required by law. We are required to comply with federal privacy, security and breach notification regulations as well as varying state privacy, security and breach notification laws and regulations, which may be more stringent than federal HIPAA requirements. In addition, for healthcare data transfers from other countries relating to citizens and/or residents of those countries, we must comply with the laws of those countries. The federal privacy regulations under HIPAA restrict our ability to use or disclose patient identifiable data, without patient authorization, for purposes other than payment, treatment, healthcare operations and certain other specified disclosures such as public health and governmental oversight of the healthcare industry.

HIPAA provides for significant fines and other penalties for wrongful use or disclosure of PHI, including potential civil and criminal fines and penalties. Computer networks are always vulnerable to breach and unauthorized persons may in the future be able to exploit weaknesses in the security systems of our computer networks and gain access to PHI. Additionally, we share PHI with third-parties who are legally obligated to safeguard and maintain the confidentiality of PHI. Unauthorized persons may be able to gain access to PHI stored in such third-parties computer networks. Any wrongful use or disclosure of PHI by us or such third-parties, including disclosure due to data theft or unauthorized access to us or our third-parties computer networks, could subject it to fines or penalties that could adversely affect our business and results of operations. Although the HIPAA statute and regulations do not expressly provide for a private right of damages, we could also be liable for damages under state laws to private parties for the wrongful use or disclosure of confidential health information or other private personal information.

***Some of our activities may subject the Company to risks under federal and state laws prohibiting ‘kickbacks’ and false or fraudulent claims.***

In addition to FDA marketing and promotion restrictions, several other types of state and federal healthcare fraud and abuse laws have been applied in recent years to restrict certain marketing practices in the healthcare product and service industry and to regulate billing practices and financial relationships with healthcare providers, hospitals and other healthcare providers. These laws include a federal law commonly known as the Medicare/Medicaid anti-kickback law, and several similar state laws, which prohibit payments intended to induce healthcare providers or others either to refer patients or to acquire or arrange for or recommend the acquisition of healthcare products or services. While the federal law applies only to referrals, products or services for which payment may be made by a federal healthcare program, state laws often apply regardless of whether federal funds may be involved. These laws constrain the sales, marketing and other promotional activities of manufacturers of medical devices and providers of laboratory services by limiting the kinds of financial arrangements, including sales programs, that may be used with hospitals, healthcare providers, laboratories and other potential purchasers or prescribers of medical devices and laboratory services. Other federal and state laws generally prohibit individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payors that are false or fraudulent, or are for items or services that were not provided as claimed.

In 2018, Congress passed the Eliminating Kickbacks in Recovery Act (“EKRA”), as part of the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act. Similar to the Medicare/Medicaid anti-kickback law, EKRA imposes criminal penalties for knowing or willful payment or offer, or solicitation or receipt, of any remuneration, whether directly or indirectly, overtly or covertly, in cash or in kind, in exchange for the referral or inducement of laboratory testing (among other healthcare services) unless a specific exception applies. However, unlike the Medicare/Medicaid anti-kickback law, EKRA is not limited to services covered by federal or state healthcare programs but applies more broadly to services covered by “healthcare benefit programs,” including commercial insurers. As currently drafted, EKRA potentially expands the universe of arrangements that could be subject to government enforcement under federal fraud and abuse laws. In addition, while the Medicare/Medicaid anti-kickback law includes certain exceptions that are widely relied upon in the healthcare industry, including compensating employees on a percentage basis, not all of those same exceptions apply under EKRA. EKRA expressly does not protect employee compensation that varies by the number of individuals referred to a laboratory, the number of tests performed by a laboratory, or the amount billed to or received from a health benefit program from individuals referred to a laboratory. Because EKRA is still a relatively new law, there is no agency guidance and only two courts have addressed the application of EKRA and those courts reached opposite conclusions. One court ruled that the commission-based compensation provisions of a laboratory employee’s contract did not violate EKRA while the other court expressly disagreed. Given the conflicting opinions, we cannot assure you that our relationships with healthcare providers, hospitals,

customers, our own sales representatives, or any other party will not be subject to scrutiny or will survive regulatory challenge under EKRA.

Additionally, to avoid liability under federal false claims laws, we or our partners must carefully and accurately code claims for reimbursement, proactively monitor the accuracy and appropriateness of claims and payments received, diligently investigate any credible information indicating that we or our partners may have received an overpayment, and promptly return any overpayments. Medicare payments are subject to audit, including through the Comprehensive Error Rate Testing (“CERT”), program, and payments may be recouped by CMS if it is determined that they were improperly made. Currently, a small percentage of our revenues are generated by payments from Medicare. The federal anti-kickback statute and certain state-level false claims laws prescribe civil and criminal penalties (including fines) for noncompliance that can be substantial. In addition, various states have enacted false claim laws analogous to the federal laws that apply where a claim is submitted to any third-party payor and not only a governmental payor program. While we continually strive to comply with these complex requirements, interpretations of the applicability of these laws to marketing and billing practices are constantly evolving and even an unsuccessful challenge could cause adverse publicity and be costly to respond to, and thus could harm our business and prospects. Our failure to comply with applicable laws could result in various adverse consequences that could have a material adverse effect upon our business, including the exclusion of our products and services from government programs and the imposition of civil or criminal sanctions.

***Our business could be harmed by the loss, suspension or other restriction on a license, certification or accreditation, or by the imposition of a fine or penalties, under CLIA, our implementing regulations or other state, federal and foreign laws and regulations affecting licensure or certification, or by future changes in these laws or regulations.***

Federal law requires virtually all clinical laboratories to comply with CLIA, which generally involves becoming certified by the federal and state government for the testing that will be performed and complying with various operational, personnel, facilities administration, quality and proficiency testing requirements intended to ensure that testing services are accurate and reliable. CLIA certification is also a prerequisite to be eligible to bill state and federal healthcare programs, as well as many private third-party payors, for laboratory research and clinical diagnostic testing services. For example, as a condition of our CLIA certification, a laboratory may be subject to survey and inspection every other year, additional random inspections and surprise inspections based on complaints received by state or federal regulators. The biennial survey and inspection is conducted by CMS, a CMS agent or, if the laboratory holds a CLIA certificate of accreditation, a CMS-approved accreditation organization, such as CAP. Sanctions for failure to comply with CLIA requirements, including proficiency testing violations, may include suspension, revocation or limitation of a laboratory’s CLIA certificate, which is necessary to conduct business, as well as the imposition of significant civil, administrative or criminal sanctions against the lab, its owners and other individuals. In addition, we are subject to regulation under certain state laws and regulations governing laboratory licensure. Some states have enacted laboratory licensure and compliance laws that are more stringent than CLIA. Changes in state licensure laws that affect our ability to offer and provide research and diagnostic products and services across state or foreign country lines could materially and adversely affect our business. In addition, state and foreign requirements for laboratory certification may be costly or difficult to meet and could affect our ability to receive specimens from certain states or foreign countries.

Any sanction imposed under CLIA, its implementing regulations or state or foreign laws or regulations governing licensure, or our failure to renew a CLIA certificate, a state or foreign license or accreditation, could have a material adverse effect on our business.

***We may never obtain approval in the EU or in any other foreign country for any of our products or services and, even if we do, we or our partners and collaborators may never be able to commercialize them in another jurisdiction, which would limit our ability to realize their full market potential.***

In order to eventually market any of our current or future products and services in any particular foreign jurisdiction, we must establish compliance with numerous and varying regulatory requirements on a jurisdiction-by-jurisdiction basis regarding quality, safety, performance, privacy and efficacy. In addition, clinical trials or clinical investigations conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory clearance, authorization or approval in one country does not guarantee regulatory clearance, authorization or approval in any other country. Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods.

Seeking foreign regulatory clearance, authorization or approval could result in difficulties and costs for us and our collaborators and require additional preclinical studies, clinical trials or clinical investigations which could be costly and time-consuming. Regulatory requirements and ethical approval obligations can vary widely from country to country and

could delay or prevent the introduction of our products and services in those countries. The foreign regulatory clearance, authorization or approval process involves all of the risks and uncertainties associated with FDA clearance, authorization or approval. We currently have limited experience in obtaining regulatory clearance, authorization or approval in international markets. If we or our collaborators fail to comply with regulatory requirements in international markets or to obtain and maintain required regulatory clearances, authorizations or approvals in international markets, or if those approvals are delayed, our target market will be reduced and our ability to realize the full market potential of our products and services will be unrealized.

***Complying with numerous statutes and regulations pertaining to our business is an expensive and time-consuming process, and any failure to comply could result in substantial penalties.***

Our operations are subject to other extensive federal, state, local and foreign laws and regulations, all of which are subject to change. These laws and regulations currently include, among others:

- HIPAA, which establishes comprehensive federal standards with respect to the privacy and security of protected health information and requirements for the use of certain standardized electronic transactions;
- amendments to HIPAA under HITECH, which strengthen and expand HIPAA privacy and security compliance requirements, increase penalties for violators and expand vicarious liability, extend enforcement authority to state attorneys general, and impose requirements for breach notification;
- the General Data Protection Regulation (“GDPR”), which imposes strict privacy and security requirements on controllers and processors of European personal data, including enhanced protections for “special categories” of personal data, including sensitive information such as health and genetic information of data subjects;
- the California Consumer Privacy Act (“CCPA”), which, among other things, regulates how subject businesses may collect, use, disclose and/or sell the personal information of consumers who reside in California, affords rights to consumers that they may exercise against businesses that collect their information, and requires implementation of reasonable security measures to safeguard personal information of California consumers and other similar state laws;
- the federal Anti-Kickback Statute, which prohibits knowingly and willfully offering, paying, soliciting or receiving remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for the referral of an individual, for the furnishing of or arrangement for the furnishing of any item or service for which payment may be made in whole or in part by a federal healthcare program, or the purchasing, leasing, ordering, arranging for, or recommend purchasing, leasing or ordering, any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program;
- EKRA, which prohibits payments for referrals to recovery homes, clinical treatment facilities, and laboratories and reaches beyond federal health care programs, to include private insurance;
- the federal physician self-referral law, known as the Stark Law, which prohibits a physician from making a referral to an entity for certain designated health services covered by the Medicare program, including laboratory and pathology services, if the physician or an immediate family member has a financial relationship with the entity unless an exception applies, and prohibits an entity from billing for designated health services furnished pursuant to a prohibited referral;
- the federal false claims law, which imposes liability on any person or entity that, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment to the federal government;
- the federal Civil Monetary Penalties Law, which prohibits, among other things, the offering or transfer of remuneration to a Medicare or state healthcare program beneficiary if the person knows or should know it is likely to influence the beneficiary’s selection of a particular provider, practitioner or supplier of services reimbursable by Medicare or a state healthcare program, unless an exception applies;
- the HIPAA fraud and abuse provisions, which create new federal criminal statutes that prohibit, among other things, defrauding health care benefit programs, willfully obstructing a criminal investigation of a healthcare offense and falsifying or concealing a material fact or making any materially false statements in connection with the payment for healthcare benefits, items or services;

- other federal and state fraud and abuse laws, such as anti-kickback laws, prohibitions on self-referral, fee-splitting restrictions, insurance fraud laws, anti-markup laws, prohibitions on the provision of tests at no or discounted cost to induce physician or patient adoption, and false claims acts, which may extend to services reimbursable by any third-party payor, including private insurers;
- the 21st Century Cures Act information blocking prohibition, which prohibits covered actors from engaging in certain practices that are likely to interfere with the access, exchange, or use of electronic health information;
- the Physician Payments Sunshine Act and similar state laws that require reporting of certain payments and other transfers of value made by applicable manufacturers, directly or indirectly, to or on behalf of covered recipients including physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals as well as ownership and investment interests held by physicians and their immediate family members.
- Beginning in 2022, applicable manufacturers also will be required to report such information regarding its relationships with physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists and certified nurse midwives during the previous year;
- state laws that limit or prohibit the provision of certain payments and other transfers of value to certain covered healthcare providers;
- the prohibition on reassignment of Medicare claims, which, subject to certain exceptions, precludes the reassignment of Medicare claims to any other party;
- state laws that prohibit other specified practices, such as billing clinicians for testing that they order; waiving coinsurance, copayments, deductibles and other amounts owed by patients; billing a state Medicaid program at a price that is higher than what is charged to one or more other payors;
- similar foreign laws and regulations that may apply to us in the countries in which we operate or may operate in the future; and
- laws that relate to maintaining accurate information and control over activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act, its books and records provisions, or anti-bribery provisions.

We have adopted policies and procedures designed to comply with these laws and regulations. In the ordinary course of our business, we conduct internal reviews of our compliance with these laws. Our compliance may also be subject to governmental review. The growth of our business and our expansion outside of the United States may increase the potential of violating these laws or our internal policies and procedures. The risk of us being found in violation of these or other laws and regulations is further increased by the fact that many have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Any action brought against us for violation of these or other laws or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. If our operations are found to be in violation of any of these laws and regulations, we may be subject to any applicable penalty associated with the violation, including significant administrative, civil and criminal penalties, damages, fines, imprisonment, exclusion from participation in Federal healthcare programs, refunding of payments received by us and curtailment or cessation of our operations, which may impact existing contracts with key payors, collaborators, health systems, and commercial partners. Any of the foregoing consequences could seriously harm our business and our financial results.

***We face uncertainty related to healthcare reform, pricing, coverage and reimbursement and other regulatory changes, which could reduce our revenue.***

Healthcare reform laws, including the Patient Protection and Affordable Care Act ("ACA"), and the Protecting Access to Medicare Act of 2014 ("PAMA"), are significantly affecting the U.S. healthcare and medical services industry. Existing legislation, and possible future legal and regulatory changes, including potential repeal or modification of the ACA, elimination of penalties regarding the individual mandate for coverage, or approval of health plans that allow lower levels of coverage for preventive services, could materially change the structure and finances of the health insurance system and the methodology for reimbursing medical services, drugs and devices, including our current and future products and services. The ACA has also been the subject of various legal challenges and in December 2018, a federal district court in Texas found that the ACA's "individual mandate" was unconstitutional such that the whole of the ACA is invalid. The decision was appealed, and in December 2019, the Fifth Circuit Court of Appeals affirmed certain portions of the district court's decision but remanded to the district court to determine if any portions of the ACA may still be valid. If the

plaintiffs in this case, or in any other case challenging the ACA, are ultimately successful, insurance coverage for our tests could be materially and adversely affected. Any change in reimbursement policy could result in a change in patient cost-sharing, which could adversely affect a provider's willingness to prescribe and patient's willingness and ability to use our tests and any other product or service we may develop. Healthcare reforms, which may intend to reduce healthcare costs, may have the effect of discouraging third-party payors from covering certain kinds of medical products and services, particularly newly developed technologies, or other products or tests we may develop in the future. We cannot predict whether future healthcare reform initiatives will be implemented at the federal or state level or the effect any such future legislation or regulation will have on it. The taxes imposed by new legislation, cost reduction measures and the expansion in the government's role in the U.S. healthcare industry may result in decreased profits to us, which may adversely affect our business, financial condition and results of operations.

PAMA presents significant uncertainty for future CMS reimbursement rates for our tests. Because Medicare currently covers a significant number of patients, any reduction in the CMS reimbursement rate for our tests would negatively affect our revenues and our business prospects. Under PAMA, CMS reimbursement rates for clinical diagnostic laboratory tests are updated every three years, or annually for clinical laboratory tests that are considered "advanced diagnostic laboratory tests". The CMS reimbursement rates for clinical diagnostic laboratory tests are updated based on the volume-weighted median of private payor rates for each clinical diagnostic laboratory test based on data submitted by certain applicable laboratories. Further, laboratories that fail to report or erroneously report required payment information may be subject to substantial civil money penalties. There can be no assurance under PAMA that adequate CMS reimbursement rates will continue to be assigned to our tests. Congress could modify or repeal PAMA in the future or CMS could modify regulations under PAMA, and any such action could have the effect of reducing the CMS reimbursement rate for our tests. Further, it is possible that Medicare or other federal payors that provide reimbursement for our tests may suspend, revoke or discontinue coverage at any time, may require co-payments from patients, or may reduce the reimbursement rates payable to us. Any such action could have a negative impact on our revenues.

Coverage of our screening products that we may develop may also depend, in whole or in part, on whether payors determine, or courts and/or regulatory authorities determine, coverage is required under applicable federal or state laws mandating coverage of certain cancer screening services.

Several states have laws mandating coverage for preventive services, such as certain cancer screening services, applicable to certain health insurers. However, not all of these laws apply to our current tests and not all of these laws presently mandate coverage for patients within the certain age ranges. We and payors may disagree about how these mandates apply to our tests and we may find the mandates difficult to enforce. Further, if the ACA is repealed, replaced or overturned, or even if it is not, states may decide to modify their laws, which may include repeal of those coverage mandates that we believe currently apply to our oncology tests.

Further, in June 2022, the U.S. Supreme Court in *Dobbs v. Jackson Women's Health Organization* reversed *Roe v. Wade* by holding that there is no constitutional right to abortion. Consequently, certain states have recently enacted or proposed restrictive abortion laws that may also implicate our reproductive and women's health screening products, which may decrease the demand for or coverage of our reproductive and women's health screening products. We cannot predict the timing or impact of any future rulemaking, court decisions or other changes in the law, or in how such laws, once enacted, would be interpreted and enforced. We have announced plans to exit our reproductive and women's health testing business.

Outside of the U.S., we would largely depend on public or government-controlled payors for coverage of our oncology tests. As compared to many more routine diagnostic tests, our oncology tests are more complicated, expensive and are performed in a central, specialized lab. In order to accommodate the unique characteristics of our diagnostic products, public payors in certain non-U.S. markets have designed reimbursement frameworks specifically for each test type. These payors could decide to modify or discontinue these special frameworks, potentially leading to lower reimbursement prices or the impossibility of providing the test in the market. These changes could also impose additional administrative burdens on us, if it were to ever sell our tests in foreign jurisdictions, including complex public tendering procedures, or on ordering physicians, which could adversely affect the number of payors covering the test or the number of orders placed. Public payors could condition reimbursement of our tests upon performance of our tests locally or, even in laboratories owned or operated by the payors. Any such change would adversely affect our ability to continue to serve those patients through our labs. We may develop future oncologic tests that could be performed locally by laboratory partners and in hospitals around the world, however those developments efforts may be unsuccessful and any such tests that we may develop may not be approved by regulators or accepted by payors or patients.

***Product and professional liability suits against us could result in expensive and time-consuming litigation, payment of substantial damages and increases in our insurance rates.***

The sale and use of our solutions, products and services could lead to product or professional liability claims, including class action lawsuits. We may also be subject to liability for errors in the test results including health information it provides to healthcare providers or patients or for a misunderstanding of, or inappropriate reliance upon, the information it provides. Claims could also arise out of clinical studies we may conduct or any of our other activities. A product or professional liability claim could result in substantial damages, be costly and time consuming to defend, and cause material harm to our business, reputation or financial condition. We cannot assure you that our liability insurance would protect our assets from the financial impact of defending a product or professional liability claim. Any claim brought against us, with or without merit, could increase our liability insurance rates or prevent it from securing insurance coverage in the future.

***Errors, defects, or mistakes in our products or services, and operations could harm our reputation, decrease market acceptance of our products or services.***

We are creating new products and services, many of which are initially based on largely untested technologies. As all of our products and services progress, we or others may determine that it made product or service-level scientific or technological mistakes. The diagnostic and testing processes utilize a number of complex and sophisticated molecular, biochemical, informatics, and mechanical processes, many of which are highly sensitive to external factors. An operational or technological failure in one of these complex processes or fluctuations in external factors may result in less efficient processing or variation between testing runs. Refinements to our processes may initially result in unanticipated issues that reduce the efficiency or increase variability. In particular, sequencing, which is a key component of these processes, could be inefficient with higher than expected variability thereby increasing total sequencing costs and reducing the number of samples we can process in a given time period. Therefore, inefficient or variable processes can cause variability in our operating results and damage our reputation.

In addition, our laboratory operations could result in any number of errors or defects. Our quality assurance system may fail to prevent it from inadvertent problems with samples, sample quality, lab processes including sequencing, software, data upload or analysis, raw materials, reagent manufacturing, assay quality or design, or other components or processes. In addition, our assays may have quality or design errors, and we may have inadequate procedures or instrumentation to process samples, assemble our proprietary primer mixes and commercial materials, upload and analyze data, or otherwise conduct our laboratory operations. If we provide products or services with undiscovered errors to our customers, our clinical diagnostics may falsely indicate a patient has a disease or genetic variant, fail to assess a patient's risk of getting a disease or having a child with a disease, or fail to detect disease or variant in a patient who requires or could benefit from treatment or intervention. We believe our customers are likely to be particularly sensitive to product and service defects, errors and delays, including if our products and services fail to indicate the presence of residual disease with high accuracy from clinical specimens or if we fail to list or inaccurately indicate the presence or absence of disease in our test report or analysis. In drug discovery, such errors may interfere with our collaborators' clinical studies or result in adverse safety or efficacy profiles for their products in development. This may harm our customers' businesses and may cause it to incur significant costs, divert the attention of key personnel, encourage regulatory enforcement action against it, create a significant customer relations problem for us and cause our reputation to suffer. We may also be subject to warranty and liability claims for damages related to errors or defects in our products or services. Any of these developments could harm our business and operating results.

***We are subject to increasingly complex taxation rules and practices, which may affect how we conduct our business and our results of operations.***

As our business grows, we are required to comply with increasingly complex taxation rules and practices. We are subject to tax in multiple U.S. tax jurisdictions and may be subject to foreign tax jurisdictions in the future. The development of our tax strategies requires additional expertise and may impact how we conduct our business. Our future effective tax rates could be unfavorably affected by changes in, or interpretations of, tax rules and regulations in the jurisdictions in which we do business or by changes in the valuation of our deferred tax assets and liabilities. Furthermore, we provide for certain tax liabilities that involve significant judgment. We are and may be subject to the examination of our tax returns by federal, state and foreign tax authorities. If our tax strategies are ineffective or it is not in compliance with domestic and international tax laws, as applicable, our financial position, operating results and cash flows could be adversely affected.

**Risks Related to Our Intellectual Property and Trade Secrets**



***Our inability to effectively protect our proprietary products, processes, and technologies, including the confidentiality of our trade secrets, could harm our competitive position.***

We currently rely upon trade secret protection and copyright, as well as non-disclosure agreements and invention assignment agreements with our employees, consultants and third parties, and to a limited extent patent protection, to protect our confidential and proprietary information. Although our competitors have utilized and are expected to continue utilizing similar methods and have aggregated and are expected to continue to aggregate similar databases of genetic testing information, our success will depend upon our ability to develop proprietary methods and databases and to defend any advantages afforded by our methods and databases relative to our competitors. If we do not protect our intellectual property adequately, competitors may be able to use our methods and databases and thereby erode any competitive advantages we may have.

We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies are covered by valid and enforceable patents or are effectively maintained as trade secrets. In this regard, we have applied, and we intend to continue applying, for patents covering such aspects of our technologies as it deems appropriate. However, we expect that potential patent coverage we may obtain will not be sufficient to prevent substantial competition. In this regard, we believe it is probable that others will independently develop similar or alternative technologies or design around those technologies for which we may obtain patent protection. In addition, any patent applications we file may be challenged and may not result in issued patents or may be invalidated or narrowed in scope after they are issued. Questions as to inventorship or ownership may also arise. Any finding that our patents or applications are unenforceable could harm our ability to prevent others from practicing the related technology, and a finding that others have inventorship or ownership rights to our patents and applications could require us to obtain certain rights to practice related technologies, which may not be available on favorable terms, if at all. If we initiate lawsuits to protect or enforce our patents, or litigate against third-party claims, which would be expensive, and we lose, we may lose some of our intellectual property rights. Furthermore, these lawsuits may divert the attention of our management and technical personnel.

We expect to rely substantially upon trade secrets and proprietary know-how protection for our confidential and proprietary information, and we have taken security measures to protect this information. These measures, however, may not provide adequate protection for our trade secrets, know-how or other confidential information. Among other things, we seek to protect our trade secrets and confidential information by entering into confidentiality agreements with employees and consultants. There can be no assurance that any confidentiality agreements that we have with our employees and consultants will provide meaningful protection for our trade secrets and confidential information or will provide adequate remedies in the event of unauthorized use or disclosure of such information. Accordingly, there also can be no assurance that our trade secrets will not otherwise become known or be independently developed by competitors. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, trade secrets may be independently developed by others in a manner that could prevent legal recourse by us. If any of our confidential or proprietary information, such as our trade secrets, were to be disclosed or misappropriated, or if any such information was independently developed by a competitor, our competitive position could be harmed.

***Any inability to effectively protect our proprietary technologies under certain jurisdictions and legal regimes could harm our competitive position.***

Our success and ability to compete in certain jurisdictions and under certain legal regimes depend to a large extent on our ability to develop proprietary products and technologies and to maintain adequate protection of our intellectual property in the United States and other countries; this becomes increasingly important as we expand our operations and enter into strategic collaborations with partners to develop and commercialize products. The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and we may encounter difficulties in establishing and enforcing its proprietary rights outside of the United States. In addition, the proprietary positions of companies developing and commercializing tools for molecular diagnostics, including our own, generally are uncertain and involve complex legal and factual questions. This uncertainty may materially affect our ability to defend or obtain patents or to address the patents and patent applications owned or controlled by our collaborators and licensors.

Any of these factors could adversely affect our ability to obtain commercially relevant or competitively advantageous patent protection for our products.

***If patent regulations or standards are modified, such changes could have a negative impact on our business.***



From time to time, the U.S. Supreme Court, other federal courts, the U.S. Congress or the USPTO may change the standards of patentability and validity of patents within the cancer screening and diagnostics space, and any such changes could have a negative impact on our business.

There have been several cases involving “gene patents” and diagnostic claims that have been considered by the U.S. Supreme Court. In March 2012, the Supreme Court in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, found a patented diagnostic method claim unpatentable because the relationship between a metabolite concentration and optimized dosage was a patent-ineligible “law of nature.” In June 2013, the Supreme Court ruled in *ACLU v. Myriad Genetics, Inc.*, that an isolated genomic DNA sequence is not patent eligible while cDNA is eligible. The *Prometheus* and *Myriad* decisions, as well as subsequent case law, affect the legal concept of subject matter eligibility by seemingly narrowing the scope of the statute defining patentable inventions.

In December 2014 and again in 2019, the USPTO published revised guidelines for patent examiners to apply when examining process claims for patent eligibility in view of several recent Supreme Court decisions, including *Mayo*, *Association for Molecular Pathology v. Myriad Genetics, Inc.*, and *Alice Corporation Pty. Ltd. v. CLS Bank International*, and others. The guidance indicates that claims directed to a law of nature, a natural phenomenon, or an abstract idea that do not meet the eligibility requirements should be rejected as non-statutory, patent ineligible subject matter. While these guidelines may be subject to review and modification by the USPTO over time, we cannot assure you that our intellectual property strategy or patent portfolio will not be negatively impacted by the decisions described above, rulings in other cases or changes in guidance or procedures issued by the USPTO.

Additional substantive changes to patent law, whether new or associated with the America Invents Act — which substantially revised the U.S. patent system — may affect our ability to obtain, enforce or defend our patents. Accordingly, it is not clear what, if any, impact these substantive changes will ultimately have on the cost of prosecuting our patent applications, our ability to obtain patents based on our discoveries and our ability to enforce or defend our issued patents, all of which could have a material adverse effect on our business.

***If we are not able to adequately protect our trade secrets and other proprietary information, including the databases we manage and to which we have access, the value of our technology and products could be significantly diminished.***

We rely on trade secret and proprietary know-how protection for our confidential and proprietary information and have taken security measures to protect this information. These measures, however, may not provide adequate protection. For example, we have a policy of requiring our consultants, advisors and collaborators, including, for example, our strategic collaborators with whom we seek to develop and commercialize products, to enter into confidentiality agreements and our employees to enter into invention, non-disclosure and in certain cases non-compete agreements. However, breaches of our physical or electronic security systems, or breaches caused by our employees who failing to abide by their confidentiality obligations during or upon termination of their employment with us, could compromise these protection efforts. Any action we take to enforce our rights may be time-consuming, expensive, and possibly unsuccessful. Even if successful, the resulting remedy may not adequately compensate us for the harm caused by the breach. These risks are heightened in countries where laws or law enforcement practices may not protect proprietary rights as fully as in the United States or Europe. Any unauthorized use or disclosure of, or access to, our trade secrets, know-how or other proprietary information, whether accidentally or through willful misconduct, could have a material adverse effect on our programs and our strategy, and on our ability to compete effectively.

***If our trademarks and trade names are not adequately protected, we may not be able to build name recognition in our markets of interest, and our business may be adversely affected.***

Failure to maintain our trademark registrations, or to obtain new trademark registrations in the future, could limit our ability to protect our trademarks and impede our marketing efforts in the countries in which we operate. We may not be able to protect our rights to trademarks and trade names which we may need to build name recognition with potential partners or customers in our markets of interest. As a means to enforce our trademark rights and prevent infringement, we may be required to file trademark claims against third parties or initiate trademark opposition proceedings. This can be expensive and time-consuming, and possibly unsuccessful. our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to infringe on other marks.

Our pending trademark applications in the United States and in other foreign jurisdictions where we may file may not be successful. Even if these applications result in registered trademarks, third parties may challenge these trademarks in the future. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively, and our business may be adversely affected.

***Litigation or other proceedings resulting from either third-party claims of patent infringement, or asserting infringement by third parties of our technology, could be costly, time-consuming, and could limit our ability to commercialize our products or services.***

Our success depends in part on our non-infringement of the patents or intellectual property rights of third parties, and our ability to successfully prevent third parties from infringing our intellectual property. We operate in a crowded technology area in which there has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the genetic diagnostics industry. Third parties, including our competitors, have asserted and may in the future assert that we are infringing their intellectual property rights. We may also become subject to and/or initiate future intellectual property litigation as our product portfolio and the level of competition in our industry grow.

Because the U.S. Patent & Trademark Office (“USPTO”), maintains patent applications in secrecy until a patent application publishes or the patent is issued, we have no way of knowing if others may have filed patent applications covering technologies used by it or our partners. Additionally, there may be third-party patents, patent applications and other intellectual property relevant to our technologies that may block or compete with our technologies. From time-to-time we have received correspondence from third parties alleging to hold intellectual property rights that could block our development or commercialization of products. While none of these inquiries to date have had any material effect on it, we may receive inquiries in the future that could have a material effect on our business. Even if third-party claims are without merit, defending a lawsuit may result in substantial expense to us and may divert the attention of management and key personnel. In addition, we cannot provide assurance that it would prevail in any such suits to the extent necessary to conduct our business according to our strategic plan or that the damages or other remedies, if any, awarded against it would not be substantial. Claims of intellectual property infringement may require that we, or our strategic partners, enter into unsustainably high royalty or license agreements with third parties that may only be available on unacceptable terms, if at all. In addition, we could experience delays in product introductions or sales growth while we attempt to develop non-infringing alternatives. These claims could also result in injunctions against the further development and commercial sale of services or products containing our technologies, which would have a material adverse effect on our business, financial condition and results of operations.

Further, patents and patent applications owned by us may become the subject of interference proceedings in the USPTO to determine priority of invention, which could result in substantial cost to us as well as a possible adverse decision as to the priority of invention of the patent or patent application involved. An adverse decision in an interference proceeding may result in the loss of rights under a patent or patent application subject to such a proceeding. We cannot predict whether, or offer any assurance that, the patent infringement claims may initiate in the future will be successful. We are and may become subject to counterclaims by patent infringement defendants. Our patents may be declared invalid or unenforceable, or narrowed in scope. Even if we prevail in an infringement action, we cannot assure you that it would be adequately compensated for the harm to our business. If we are unable to enjoin third-party infringement, our revenues may be adversely impacted and we may lose market share; and such third-party product may continue to exist in the market, but fail to meet our regulatory or safety standards, thereby causing irreparable harm to our reputation as a provider of quality products, which in turn could result in loss of market share and have a material adverse effect on our business, financial condition and our results of operations.

In addition, our agreements with some of our customers, suppliers, and other entities with whom we do business require us to defend or indemnify these parties to the extent they become involved in patent infringement claims, including the types of claims described in this risk factor. We have agreed, and may in the future agree, to defend or indemnify third parties if we determine it to be in the best interests of our business relationships. If we are required or agree to defend or indemnify third parties in connection with any infringement claims, we could incur significant costs and expenses that could adversely affect our business, financial condition and results of operations.

***Our use of open-source software could subject our business to possible litigation or cause us to subject our platform to unwanted open-source license conditions that could negatively impact our sales.***

A limited but meaningful portion of our platforms and products incorporate open-source software, and we will incorporate open-source software into other offerings or products in the future. Such open-source software is generally licensed by its authors or other third parties under open-source licenses. There is little legal precedent governing the interpretation of certain terms of these licenses, and therefore the potential impact of these terms on our business is unknown and may result in unanticipated obligations regarding our products and technologies. If an author or other third party that distributes such open-source software were to allege that we had not complied with the conditions of one or more of these licenses, we could be required to incur significant legal expenses defending against such allegations. In addition, if we combine our proprietary software with open-source software in a certain manner, under some open-source licenses, we

could be required to release the source code of our proprietary software, which could substantially help our competitors develop products that are similar to or better than our products.

***We rely on strategic collaborative and licensing arrangements with third parties to develop critical intellectual property. We may not be able to successfully establish and maintain such intellectual property.***

The development and commercialization of our products and services rely, directly or indirectly, upon strategic collaborations and licensing agreements with third parties. Such arrangements provide us with intellectual property and other business rights crucial to our product development and commercialization. We have incorporated licensed technology into our tests. Our dependence on licensing, collaboration and other similar agreements with third parties may subject it to a number of risks. There can be no assurance that any current contractual arrangements between us and third parties or between our strategic partners and other third parties will be continued on materially similar terms and will not be breached or terminated early. Any failure to obtain or retain the rights to necessary technologies on acceptable commercial terms could require us to re-configure our products and services, which could negatively impact their commercial sale or increase the associated costs, either of which could materially harm our business and adversely affect our future revenues and ability to achieve sustained profitability.

We expect to continue and expand our reliance on collaborative and licensing arrangements. Establishing new strategic collaborations and licensing arrangements is difficult and time-consuming. Discussions with potential collaborators or licensors may not lead to the establishment of collaborations on favorable terms, if at all. To the extent we agree to work exclusively with one collaborator in a given area, our opportunities to collaborate with other entities could be limited. Potential collaborators or licensors may reject collaborations with it based upon their assessment of our financial, regulatory or intellectual property position or other factors. Even if we successfully establish new collaborations, these relationships may never result in the successful commercialization of any product or service. In addition, the success of the projects that require collaboration with third parties will be dependent on the continued success of such collaborators. There is no guarantee that our collaborators will continue to be successful and, as a result, we may expend considerable time and resources developing products or services that will not ultimately be commercialized.

#### **Risks Related to Cybersecurity, Privacy and Information Technology**

***Interruption, interference with, or failure of our information technology and communications systems could hurt our ability to effectively provide our products and services, which could harm our reputation, financial condition, and operating results.***

The availability of our products and services and fulfillment of our customer contracts depend on the continuing operation of our information technology and communications systems. Our systems are vulnerable to damage, interference, or interruption from terrorist attacks, natural disasters, the effects of climate change (such as sea level rise, drought, flooding, wildfires, and increased storm severity), power loss, telecommunications failures, computer viruses, ransomware attacks, computer denial of service attacks, phishing schemes, or other attempts to harm or access our systems. Some of our data centers are located in areas with a high risk of major earthquakes or other natural disasters. Our data centers are also subject to break-ins, sabotage, and intentional acts of vandalism, and, in some cases, to potential disruptions resulting from problems experienced by facility operators. Some of our systems are not fully redundant, and disaster recovery planning cannot account for all eventualities.

The occurrence of a natural disaster, closure of a facility, or other unanticipated problems at our data centers could result in lengthy interruptions in our service. In addition, our products and services are highly technical and complex and may contain errors or vulnerabilities, which could result in interruptions in or failure of our services or systems.

***Security breaches, privacy issues, loss of data and other incidents could compromise sensitive, protected, or personal information related to our business, could prevent it from accessing critical information, and could expose it to regulatory liability, which could adversely affect our business.***

In the ordinary course of our business, we collect and store sensitive data, including PHI, personally identifiable information, genetic information, credit card information, intellectual property and proprietary business information owned or controlled by us or our customers, payors and other parties. We manage and maintain our applications and data utilizing a combination of on-site systems, managed data center systems and cloud-based systems. We also communicate PHI and other sensitive patient data through our various customer tools and platforms. In addition to storing and transmitting sensitive data that is subject to multiple legal protections, these applications and data encompass a wide variety of business-critical information including research and development information, commercial information, and business and financial information. We face a number of risks relative to protecting this critical information, including loss of access risk,

inappropriate disclosure, inappropriate modification, and the risk of our being unable to adequately monitor and modify our controls over our critical information. Any technical problems that may arise in connection with the data that we access and our systems, including those that are hosted by third-party providers, could result in interruptions to our business and operations or exposure to security vulnerabilities. These types of problems may be caused by a variety of factors, including infrastructure changes, intentional or accidental human actions or omissions, software errors, malware, viruses, security attacks, fraud, spikes in customer usage and denial of service issues. From time to time, large third-party web hosting providers have experienced outages or other problems that have resulted in their systems being offline and inaccessible. Such outages could materially impact our business and operations.

The secure processing, storage, maintenance and transmission of this critical information are vital to our operations and business strategy, and we devote significant resources to protecting such information. Although we take what we believe to be reasonable and appropriate measures, including a formal, dedicated enterprise security program, to protect sensitive information from various compromises (including unauthorized access, disclosure, or modification or lack of availability), our information technology and infrastructure may be vulnerable to attacks by hackers or viruses or breached due to employee error, malfeasance or other disruptions. Any such breach or interruption could compromise our networks and the information stored therein could be accessed by unauthorized parties, altered, publicly disclosed, lost or stolen.

Further, some of our customer tools and platforms are currently accessible through a portal and there is no guarantee that we can protect our portal from a security breach. Unauthorized access, loss or dissemination could also disrupt our operations (including our ability to conduct our analyses, provide test results, bill payors or patients, process claims and appeals, provide customer assistance, conduct research and development activities, collect, process and prepare company financial information, provide information about our tests and other patient and physician education and outreach efforts through our website, and manage the administrative aspects of our business) and damage our reputation, any of which could adversely affect our business. In addition to data security risks, we also face privacy risks. Should we actually violate, or be perceived to have violated, any privacy promises our business makes to patients or consumers, it could be subject to a complaint from an affected individual or interested privacy regulator, such as the FTC, a state Attorney General, an EU Member State Data Protection Authority, or a data protection authority in another international jurisdiction. This risk is heightened given the sensitivity of the data we collect.

Any security compromise that causes an apparent privacy violation could also result in legal claims or proceedings; liability under federal, state, foreign, or multinational laws that regulate the privacy, security, or breach of personal information, such as but not limited to the HIPAA, HITECH, state data security and data breach notification laws, the EU's GDPR, the UK Data Protection Act of 2018; and related regulatory penalties. Penalties for failure to comply with a requirement of HIPAA or HITECH vary significantly, and, depending on the knowledge and culpability of the HIPAA-regulated entity, may include civil monetary penalties of up to \$1.5 million per calendar year for each provision of HIPAA that is violated. A person who knowingly obtains or discloses individually identifiable health information in violation of HIPAA may face a criminal penalty of up to \$50,000 and up to one-year imprisonment. The criminal penalties increase if the wrongful conduct involves false pretenses or the intent to sell, transfer or use identifiable health information for commercial advantage, personal gain or malicious harm. Penalties for unfair or deceptive acts or practices under the FTC Act or state Unfair and Deceptive Acts and Practices ("UDAP"), statutes may also vary significantly.

There has been unprecedented activity in the development of data protection regulation around the world. As a result, the interpretation and application of consumer, health-related and data protection laws in the United States, Europe and elsewhere are often uncertain, contradictory and in flux. The GDPR took effect on May 25, 2018. The GDPR applies to any entity established in the EU as well as extraterritorially to any entity outside the EU that offers goods or services to, or monitors the behavior of, individuals who are located in the EU. The GDPR imposes strict requirements on controllers and processors of personal data, including enhanced protections for "special categories" of personal data, which includes sensitive information such as health and genetic information of data subjects. The GDPR also grants individuals various rights in relation to their personal data, including the rights of access, rectification, objection to certain processing and deletion. The GDPR provides an individual with an express right to seek legal remedies if the individual believes his or her rights have been violated. Failure to comply with the requirements of the GDPR or the related national data protection laws of the member states of the EU, which may deviate from or be more restrictive than the GDPR, may result in significant administrative fines issued by EU regulators. Maximum penalties for violations of the GDPR are capped at 20 million euros or 4% of an organization's annual global revenue, whichever is greater.

Further, the United Kingdom's decision to leave the EU, often referred to as Brexit, has created uncertainty with regard to data protection regulation in the United Kingdom. The relationship between the United Kingdom and the EU remains uncertain, for example how data transfers between the United Kingdom and the EU and other jurisdictions will be

treated and the role of the United Kingdom’s supervisory authority. For example, on June 28, 2021, the European Commission adopted the adequacy decision (the “UK Adequacy Decision”) in the wake of a non-binding vote by the European Parliament against the then-draft UK Adequacy Decision the month prior. Consequently, personal data can continue to flow from the EEA to the United Kingdom without the need for appropriate safeguards. The UK Adequacy Decision includes a “sunset clause”, rendering the decision valid for four years only, after which it will be reviewed by the European Commission and renewed only if the European Commission considers that the United Kingdom continues to ensure an adequate level of data protection. The European Commission also stated that it would intervene at any point within the four years if the United Kingdom deviates from the level of protection presently in place. If this adequacy decision reversed by the European Commission, it would require that companies implement protection measures such as the standard contractual clauses for data transfers between the EU and the United Kingdom.

Additionally, the implementation of GDPR has led other jurisdictions to either amend or propose legislation to amend their existing data privacy and cybersecurity laws to resemble the requirements of GDPR. For example, on June 28, 2018, California adopted the CCPA. The CCPA regulates how certain for-profit businesses that meet one or more CCPA applicability thresholds collect, use, and disclose the personal information of consumers who reside in California. Among other things, the CCPA confers to California consumers the right to receive notice of the categories of personal information that will be collected by a business, how the business will use and share the personal information, and the third parties who will receive the personal information; the CCPA also confers rights to access, delete, or transfer personal information; and the right to receive equal service and pricing from a business after exercising a consumer right granted by the CCPA. In addition, the CCPA allows California consumers the right to opt out of the “sale” of their personal information, which the CCPA defines broadly as any disclosure of personal information to a third party in exchange for monetary or other valuable consideration. The CCPA also requires a business to implement reasonable security procedures to safeguard personal information against unauthorized access, use, or disclosure. California amended the law in September 2018 to exempt all PHI collected by certain parties subject to HIPAA, and further amended the law in September 2020 to clarify that de-identified data as defined under HIPAA will also be exempt from the CCPA. The California Attorney General’s final regulations implementing the CCPA took effect on August 14, 2020. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches resulting from a business’s failure to implement and maintain reasonable data security procedures that is expected to increase data breach litigation. In addition, California voters recently approved the California Privacy Rights Act of 2020 (“CPRA”), that is scheduled to go into effect on January 1, 2023. The CPRA would, among other things, amend the CCPA to give California residents the ability to limit the use of their “sensitive personal information” and the use of personal information for automated decision-making or targeted advertising, provide for penalties for CPRA violations concerning California residents under the age of 16, and establish a new California Privacy Protection Agency to implement and enforce the law. Many aspects of the CCPA, the CPRA, and their interpretation remain unclear, and their full impact on our business and operations remains uncertain. Following the lead of California, several other states, including Colorado, Utah, Virginia and Connecticut have each enacted laws similar to the CCPA/CPRA and other states are considering enacting privacy laws as well. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent privacy legislation, which could increase our potential liability and adversely affect our business, results of operations, and financial condition.

It is possible the GDPR, CCPA and other emerging United States and international data protection laws may be interpreted and applied in manner that is inconsistent with our practices. If so, this could result in government-imposed fines or orders requiring that we change our practices, which could adversely affect our business. In addition, these privacy laws and regulations may differ from country to country and state to state, and our obligations under these laws and regulations vary based on the nature of our activities in the particular jurisdiction, such as whether we collect samples from individuals in the local jurisdiction, perform testing in the local jurisdiction, or process personal information regarding employees or other individuals in the local jurisdiction. Complying with these various laws and regulations could cause us to incur substantial costs or require it to change our business practices and compliance procedures in a manner adverse to our business. We can provide no assurance that it is or will remain in compliance with diverse privacy and data security requirements in all of the jurisdictions in which we do business. Failure to comply with privacy and data security requirements could result in a variety of consequences, or damage to our reputation, any of which could have a material adverse effect on our business.

***Data privacy and security concerns relating to our technology and our practices could damage our reputation, subject it to significant legal and financial exposure, and deter current and potential users or customers from using our products and services. Software bugs or defects, security breaches, and attacks on our systems could result in the improper disclosure and use of user data and interference with our users and customers’ ability to use our products and services, harming our business operations and reputation.***

Concerns about our practices with regard to the collection, use, disclosure, or security of personal information or other data-privacy-related matters, even if unfounded, could harm our reputation, financial condition, and operating results. Our policies and practices may change over time as expectations regarding privacy and data change.

Our products and services involve the storage and transmission of protected health information and other personal information, proprietary information, and bugs, theft, misuse, defects, vulnerabilities in our products and services, and security breaches expose us to a risk of loss of this information, improper use and disclosure of such information, litigation, and other potential liability. Systems and control failures, security breaches, failure to comply with our privacy policies, and/or inadvertent disclosure of user data could result in government and legal exposure, seriously harm our reputation and brand and, therefore, our business, and impair our ability to attract and retain users or customers. We expect to continue to expend significant resources to maintain security protections that shield against bugs, theft, misuse, or security vulnerabilities or breaches.

We experience cyber-attacks and other attempts to gain unauthorized access to our systems on a regular basis. We may experience future security issues, whether due to employee error or malfeasance or system errors or vulnerabilities in our or other parties' systems, which could result in significant legal and financial exposure. Government inquiries and enforcement actions, litigation, and adverse press coverage could harm our business. We may be unable to anticipate or detect attacks or vulnerabilities or implement adequate preventative measures. Attacks and security issues could also compromise trade secrets and other sensitive information, harming our business.

While we have dedicated significant resources to privacy and security incident response capabilities, including dedicated worldwide incident response teams, our response process may not be adequate, may fail to accurately assess the severity of an incident, may not respond quickly enough, or may fail to sufficiently remediate an incident. As a result, we may suffer significant legal, reputational, or financial exposure, which could harm our business, financial condition, and operating results.

***We depend on our scientific computing and information technology and management systems and any failure of these systems could harm our business.***

We depend on scientific computing and information technology and management systems, including third-party cloud computing infrastructure, operating systems and artificial intelligence platforms, for significant elements of our operations, including our laboratory information management system, clinical database, analytical platform, laboratory workflow tools, customer and collaborator reporting and related functions. We also depend on our proprietary workflow software to support new product and service launches and regulatory compliance.

We use complex software processes and bioinformatic pipelines to manage samples and evaluate sequencing result data. These are subject to initial design or ongoing modifications which may result in unanticipated issues that could cause variability in patient results, leading to service disruptions or errors, resulting in liability.

We have installed, and expects to expand, a number of enterprise software systems that affect a broad range of business processes and functional areas, including systems laboratory operations, handling human resources, financial controls and reporting, contract management, regulatory compliance and other infrastructure operations, and patient consent and information management. In addition to these business systems, we have installed, and intends to extend, the capabilities of both our preventative and detective security controls by augmenting the monitoring and alerting functions, the network design and the automatic countermeasure operations of our technical systems. These information technology and telecommunications systems support a variety of functions, including laboratory operations, test validation, sample tracking, quality control, customer service support, billing and reimbursement, research and development activities, scientific and medical curation and general administrative activities. In addition, our third-party billing and collections provider depends upon technology and telecommunications systems provided by outside vendors.

Information technology and telecommunications systems are vulnerable to damage from a variety of sources, including telecommunications or network failures, malicious internal or external human acts and natural disasters. Moreover, despite network security and back-up measures, some of our servers are potentially vulnerable to physical or electronic break-ins, computer viruses and similar disruptive problems. Despite the precautionary measures we have taken to prevent unanticipated problems that could affect our information technology and telecommunications systems, failures or significant downtime of these systems or those used by our collaborators or subcontractors could prevent it from conducting our comprehensive screening analysis, clinical diagnostics and drug discovery, preparing and providing reports to researchers, clinicians and our collaborators, billing payors, handling physician inquiries, conducting research and development activities and managing the administrative aspects of our business. Any disruption or loss of information



technology or telecommunications systems on which critical aspects of our operations depend could have an adverse effect on our business and our reputation, and we may be unable to regain or repair our reputation in the future.

***Our ability to transfer data stored outside of the United States could be limited by international regulations or other action by foreign governments, which could adversely affect our business.***

Some of the data we process in the ordinary course of our business may be stored outside of the United States. In order to process such data, we may need to transfer them to countries other than those where they are stored. Should a foreign government adopt a regulation restricting the international transfer of such data, we may not be able to process them, which could adversely impact our business.

#### **Risks Related to Being a Public Company**

***We will incur increased costs and demands on management as a result of compliance with laws and regulations applicable to public companies, which could harm our operating results.***

As a public company, we incur significant legal, accounting and other expenses, including costs associated with public company reporting requirements. In addition, the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”) as well as rules implemented by the SEC and the Nasdaq Stock Market (“Nasdaq”) impose a number of requirements on public companies, including with respect to corporate governance practices. The SEC and other regulators have continued to adopt new rules and regulations and make additional changes to existing regulations that require the company’s compliance. In addition, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”), enacted in 2010, includes significant corporate governance and executive-compensation-related provisions. Our management and other personnel will need to devote a substantial amount of time to these compliance and disclosure obligations. If these requirements divert the attention of our management and personnel from other aspects of our business concerns, they could have a material adverse effect on our business, financial condition and results of operations. Moreover, these rules and regulations applicable to public companies substantially could increase our legal, accounting and financial compliance costs, require that we hire additional personnel and make some activities more time consuming and costly.

***A market for our securities may not continue, which would adversely affect the liquidity and price of our securities.***

The price of our securities may fluctuate significantly due to general market and economic conditions. An active trading market for our securities may not be sustained. In addition, the price of our securities can vary due to general economic conditions and forecasts, our general business condition and the release of our financial reports. You may be unable to sell your securities when desired or at an acceptable price unless an active trading market can be sustained.

***If we do not meet the expectations of investors, stockholders or financial analysts, the market price of our securities may decline.***

If we do not meet the expectations of investors or securities analysts, the market price of our securities may decline. In addition, fluctuations in the price of our securities could contribute to the loss of all or part of your investment. If an active market for our securities does not continue, the trading price of our securities could be volatile and subject to wide fluctuations in response to various factors, some of which are beyond our control. Any of the factors listed below could have a material adverse effect on your investment in our securities and our securities may trade at prices significantly below the price you paid for them. In such circumstances, the trading price of our securities may not recover and may experience a further decline.

Factors affecting the trading price of our securities may include:

- actual or anticipated fluctuations in our quarterly financial results or the quarterly financial results of companies perceived to be similar to us;
- changes in the market’s expectations about our operating results;
- the public’s reaction to our press releases, our other public announcements and our filings with the SEC;
- speculation in the press or investment community;
- announcements of technological innovation, new products, acquisitions, strategic alliances, significant agreements by us or competitors;

- success of competitors;
- our operating results falling below our financial guidance or other projections or failing to meet the expectation of securities analysts or investors in a particular period;
- changes in financial estimates and recommendations by securities analysts concerning us or the market in general;
- operating and stock price performance of other companies that investors deem comparable to us;
- our ability to market new and enhanced products on a timely basis;
- changes in laws and regulations affecting our business;
- commencement of, or involvement in, litigation involving us;
- changes in our capital structure, such as future issuances of securities or the incurrence of additional debt;
- risks that the Acquisition disrupts our current plans and operations or affects our ability to retain or recruit key employees;
- risks related to the Acquisition diverting management's or employees' attention from ongoing business operations;
- the effect of the Acquisition on our business relationships (including, without limitation customers, strategic partners, collaborators and suppliers), operating results and business generally;
- the amount of the costs, fees, expenses and charges related to the Acquisition;
- the volume of shares of our Class A common stock available for public sale;
- any major change in our Board or management;
- sales of substantial amounts of Class A common stock by our directors, officers or significant stockholders or the perception that such sales could occur;
- the expiration of the market stand-off or contractual lock-up agreements;
- the realization of any of the risk factors described herein;
- additions or departures of key personnel;
- failure to comply with the requirements of the Nasdaq;
- failure to comply with the Sarbanes-Oxley Act or other laws or regulations;
- actual, potential or perceived control, accounting or reporting problems;
- changes in accounting principles, policies and guidelines; and
- general economic and political conditions such as recessions, rising inflation and interest rates, global conflicts such as the war in Ukraine, fuel prices, international currency fluctuations and acts of war or terrorism.

Broad market and industry factors may materially harm the market price of our securities irrespective of our operating performance. The stock market in general and Nasdaq have experienced price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of these stocks, and of our securities, may not be predictable. A loss of investor confidence in the market for the stocks of other companies which investors perceive to be similar to us could depress our stock price regardless of our business, prospects, financial conditions or results of operations. A decline in the market price of our securities also could adversely affect our ability to issue additional securities and our ability to obtain additional financing in the future.

In the past, securities class action litigation has often been initiated against companies following periods of volatility in their stock price. In particular, on September 7, 2022, a shareholder class action lawsuit was filed in the United States



District Court for the District of Connecticut against the Company and certain of the Company's current and former officers. For more information, see "Item 1. Legal Proceedings." This type of litigation could result in substantial costs and divert our management's attention and resources, and could also require us to make substantial payments to satisfy judgments or to settle litigation.

***If securities or industry analysts cease publishing research or reports about us, our business, or our market, or if they change their recommendations regarding our Class A common stock adversely, then the price and trading volume of our Class A common stock could decline.***

The trading market for our Class A common stock is influenced by the research and reports that industry or securities analysts publish about us, our business, our market, or our competitors. If any of the analysts who cover us change their recommendation regarding our stock adversely, or provide more favorable relative recommendations about our competitors, the price of our Class A common stock would likely decline. If any analyst who covers us were to cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline.

***Changes in laws, regulations or rules, or a failure to comply with any laws, regulations or rules, may adversely affect our business, investments and results of operations.***

We are subject to laws, regulations and rules enacted by national, regional and local governments and Nasdaq. In particular, we are required to comply with certain SEC, Nasdaq and other legal or regulatory requirements. Compliance with, and monitoring of, applicable laws, regulations and rules may be difficult, time consuming and costly. Those laws, regulations or rules and their interpretation and application may also change from time to time and those changes could have a material adverse effect on our business, investments and results of operations. In addition, a failure to comply with applicable laws, regulations or rules, as interpreted and applied, could have a material adverse effect on our business and results of operations.

***Anti-takeover provisions contained in our Charter and Restated Bylaws, as well as provisions of Delaware law, could impair a takeover attempt.***

Our Amended and Restated Certificate of Incorporation (which we refer to as our "Charter") contains provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. We are also subject to anti-takeover provisions under Delaware law, which could delay or prevent a change of control. Together, these provisions may make more difficult the removal of management and may discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our securities. These provisions will include:

- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- a classified board of directors with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of the Board;
- the requirement that directors may only be removed from the Board for cause;
- the right of our Board to elect a director to fill a vacancy created by the expansion of our Board or the resignation, death or removal of a director in certain circumstances, which prevents stockholders from being able to fill vacancies on our Board;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- a prohibition on stockholders calling a special meeting and the requirement that a meeting of stockholders may only be called by a majority of the board, our chairman of the board or our chief executive officer and may not be called by any other person, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- the requirement that changes or amendments to certain provisions of our Charter must be approved by holders of at least two-thirds of our Class A common stock; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our Board or to propose matters to be acted upon at a meeting of stockholders, which may discourage or deter a potential acquirer

from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

***The JOBS Act permits “emerging growth companies” like us to take advantage of certain exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies.***

We currently qualify as an “emerging growth company” as defined in Section 2(a)(19) of the Securities Act, as modified by the JOBS Act. As such, we take advantage of certain exemptions from various reporting requirements applicable to other public companies that are not emerging growth companies for as long as we continue to be an emerging growth company, including: (i) the exemption from the auditor attestation requirements with respect to internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act; (ii) the exemptions from say-on-pay, say-on-frequency and say-on-golden parachute voting requirements; and (iii) reduced disclosure obligations regarding executive compensation in our periodic reports. As a result, our stockholders may not have access to certain information they deem important. We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year: (a) following September 1, 2025, the fifth anniversary of the initial public offering of CMLS; (b) in which we have total annual gross revenue of at least \$1.235 billion; or (c) in which we are deemed to be a large accelerated filer, which means the market value of our Class A common stock that is held by non-affiliates exceeds \$700.0 million as of the prior June 30th, and (ii) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

In addition, Section 107 of the JOBS Act also provides that an emerging growth company can take advantage of the exemption from complying with new or revised accounting standards provided in Section 7(a)(2)(B) of the Securities Act as long as we are an emerging growth company. An emerging growth company can therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. The JOBS Act provides that a company can elect to opt out of the extended transition period and comply with the requirements that apply to non-emerging growth companies, but any such election to opt out is irrevocable. We have elected to avail ourselves of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we, as an emerging growth company, can adopt the new or revised standard at the time private companies adopt the new or revised standard. This may make comparison of our financial statements with another public company that is neither an emerging growth company nor an emerging growth company that has opted out of using the extended transition period difficult or impossible because of the potential differences in accounting standards used.

Additionally, we are a “smaller reporting company” as defined in Item 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited consolidated financial statements. We will remain a smaller reporting company until the last day of the fiscal year in which (i) the market value of our Class A common stock held by non-affiliates exceeds \$250 million as of the prior June 30, or (ii) our annual revenues exceeded \$100 million during such completed fiscal year and the market value of our Class A common stock held by non-affiliates exceeds \$700 million as of the prior June 30.

We cannot predict if investors will find our Class A common stock less attractive because we rely on these exemptions. If some investors find our Class A common stock less attractive as a result, there may be a less active trading market for our Class A common stock and our stock price may be more volatile.

***Our internal controls over financial reporting may not be effective and our independent registered public accounting firm may not be able to certify as to their effectiveness, which could have a significant and adverse effect on our business and reputation.***

As a public company, we are required to comply with the SEC's rules implementing Sections 302 and 404 of Sarbanes-Oxley Act, which require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of internal control over financial reporting. To comply with the requirements of being a public company, we are required to provide management's assessment on internal controls, and we may need to undertake various actions, such as implementing additional internal controls and procedures and hiring additional accounting or internal audit staff. Further, as an emerging growth company, our independent registered public accounting firm is not required to formally attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404 until the date we are no longer an emerging growth company. At such time, our independent registered public accounting firm may issue a report that is adverse in the event that it is not satisfied with the level at which the controls of the company are documented, designed or operating.

Testing and maintaining these controls can divert our management's attention from other matters that are important to the operation of our business. If we identify material weaknesses in the internal control over financial reporting of the company or are unable to comply with the requirements of Section 404 or assert that our internal control over financial

reporting is effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal controls over financial reporting when we no longer qualify as an emerging growth company, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our Class A common stock could be negatively affected, and we could become subject to investigations by the SEC or other regulatory authorities, which could require additional financial and management resources.

***Our Charter designates the Court of Chancery of the State of Delaware and federal court within the State of Delaware as the exclusive forum for certain types of actions and proceedings that our stockholders may initiate, which could limit a stockholder's ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.***

Our Charter designates the Court of Chancery of the State of Delaware and federal court within the State of Delaware as the exclusive forum for certain types of actions and proceedings that our stockholders may initiate, which could limit a stockholder's ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our Charter provides that, subject to limited exceptions, the Court of Chancery of the State of Delaware and federal court within the State of Delaware will be exclusive forums for any:

- derivative action or proceeding brought on our behalf;
- action asserting a claim of breach of a fiduciary duty owed by, or other wrongdoing by, any of our directors, officers, stockholders, employees or agents to us or our stockholders;
- action asserting a claim against the us or any of our directors, officers, stockholders, employees or agents arising pursuant to any provision of the General Corporation Law, our Charter or our Restated Bylaws or as to which the General Corporation Law confers jurisdiction on the Court of Chancery of the State of Delaware;
- action to interpret, apply, enforce or determine the validity of our Charter or our Bylaws; or
- other action asserting a claim against us or any of our directors, officers, stockholders, employees or agents that is governed by the internal affairs doctrine.

This choice of forum provision does not apply to actions brought to enforce a duty or liability created under the Exchange Act or any other claim for which federal courts have jurisdiction. Furthermore, in accordance with our Bylaws, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States will be, to the fullest extent permitted by law, the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring or holding any interest in any of our securities shall be deemed to have notice of and consented to our exclusive forum provision in our Bylaws and the choice of forum provision in our Charter.

These provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, or other employees, which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provisions contained in our Charter to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, results of operations and financial condition.

The stockholders will not be deemed to have waived our compliance with the federal securities laws and the regulations promulgated thereunder.

Any person or entity purchasing or otherwise acquiring or holding any interest in any of our securities shall be deemed to have notice of and consented to our exclusive forum provisions, including the choice of forum provision. These provisions may limit a stockholders' ability to bring a claim, and may result in increased costs for a stockholder to bring a claim in a judicial forum of their choosing for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers, and other employees.

## **Risks Related to Our Common Stock and Warrants**

***We may amend the terms of the public warrants in a manner that may be adverse to holders with the approval by the holders of at least 50% of the then-outstanding public warrants. As a result, the exercise price of a holder's public warrants could be increased, the exercise period could be shortened and the number of shares of our common stock purchasable upon exercise of a public warrant could be decreased, all without the approval of that warrant holder.***

Our public warrants were issued in registered form under a warrant agreement between Continental Stock Transfer & Trust Company, as warrant agent, and us. The warrant agreement provides that the terms of the public warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but requires the approval by the holders of at least 50% of the then-outstanding public warrants to make any change that adversely affects the interests of the registered holders. Accordingly, we may amend the terms of the public warrants in a manner adverse to a holder if holders of at least 50% of the then-outstanding public warrants approve of such amendment. Although our ability to amend the terms of the public warrants with the consent of at least 50% of the then-outstanding public warrants is unlimited, examples of such amendments could be amendments to, among other things, increase the exercise price of the public warrants, convert the warrants into cash or stock, shorten the exercise period or decrease the number of shares of common stock purchasable upon exercise of a public warrant.

***We may redeem unexpired public warrants prior to their exercise at a time that is disadvantageous to warrant holders, thereby making their public warrants worthless.***

We have the ability to redeem outstanding public warrants at any time after they become exercisable and prior to their expiration, at a price of \$0.01 per public warrant; provided that the last reported sales price of our common stock equals or exceeds \$18.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within a 30 trading-day period ending on the third trading day prior to the date on which we give notice of such redemption to the warrant holders. If and when the public warrants become redeemable by us, we may exercise our redemption right even if we are unable to register or qualify the underlying securities for sale under all applicable state securities laws. We will use our best efforts to register or qualify such shares of common stock under the blue sky laws of the state of residence in those states in which the warrants were offered by us. Redemption of the outstanding public warrants could force the warrant holders: (i) to exercise their public warrants and pay the exercise price therefor at a time when it may be disadvantageous for them to do so; (ii) to sell their public warrants at the then-current market price when they might otherwise wish to hold their public warrants; or (iii) to accept the nominal redemption price which, at the time the outstanding public warrants are called for redemption, is likely to be substantially less than the market value of their public warrants. None of the private placement warrants will be redeemable by us so long as they are held by CMLS Holdings LLC, or the Former Sponsor, or its permitted transferees.

***Our warrants are exercisable for our Class A common stock, which will increase the number of shares eligible for future resale in the public market and result in dilution to our stockholders.***

As of September 30, 2022, our public warrants are exercisable for 14,758,305 shares of Class A common stock at \$11.50 per share. Our private warrants are exercisable for 7,236,667 shares of Class A common stock at \$11.50 per share. The additional shares of our Class A common stock issuable upon exercise of our warrants will result in dilution to the then existing holders of our Class A common stock and increase the number of shares eligible for resale in the public market. Sales of substantial numbers of such shares in the public market could adversely affect the market price of our Class A common stock.

***Our warrants are accounted for as liabilities and the changes in value of our warrants could have a material effect on our financial results.***

Included on our condensed consolidated balance sheet as of September 30, 2022 are derivative liabilities related to our warrants. Accounting Standards Codification 815, Derivatives and Hedging (“ASC 815”), provides for the remeasurement of the fair value of such derivatives at each balance sheet date, with a resulting non-cash gain or loss related to the change in the fair value being recognized in earnings in the statement of operations. As a result of the recurring fair value measurement, our financial statements and results of operations may fluctuate quarterly, based on factors, which are outside of our control. Due to the recurring fair value measurement, we expect that we will recognize non-cash gains or losses on our warrants each reporting period and that the amount of such gains or losses could be material.

***Future resales of our Class A common stock could cause the market price of our Class A common stock to drop significantly, even if our business is doing well.***

Sales of a substantial number of shares of our Class A common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our Class A common stock.

We had outstanding 381,428,905 shares of Class A common stock as of September 30, 2022. We have filed a registration statement which registers the offer and sale from time to time by certain selling stockholders of up to 356,524,688 shares of our Class A common stock, although the 110,864,198 shares of our Class A common stock

registered on behalf of OPKO pursuant to this registration statement will be subject to certain transfer restrictions pursuant to the shareholder agreements that were entered into in connection with the Acquisition. To the extent shares of our Class A common stock are sold into the market pursuant to an effective registration statement, under Rule 144 under the Securities Act or otherwise, particularly in substantial quantities and following the end of the transfer restrictions provided for in the shareholder agreements in the case of OPKO and the other stockholders party to such shareholder agreements, the market price of our Class A common stock could decline.

***There is no guarantee that the public warrants will ever be in the money, and they may expire worthless and the terms of our public warrants may be amended.***

The exercise price for the public warrants is \$11.50 per share of Class A common stock. There is no guarantee that the public warrants will ever be in the money prior to their expiration, and as such, the public warrants may expire worthless.

***We cannot guarantee that we will be able to satisfy the continued listing standards of Nasdaq going forward and if we fail to satisfy the continued listing requirements of Nasdaq, including the minimum closing bid price requirement, Nasdaq may take steps to delist our Class A common stock.***

Our Class A common stock and public warrants are listed on the Nasdaq under the symbols “SMFR” and “SMFRW,” respectively. However, we cannot ensure that we will be able to satisfy the continued listing standards of Nasdaq, including the minimum closing bid price requirement, going forward. If we cannot satisfy the continued listing standards going forward, The Nasdaq Stock Market may commence delisting procedures against us, which could result in our Class A common stock or public warrants being removed from listing on Nasdaq. If either of our Class A common stock or public warrants were to be delisted, the liquidity of our Class A common stock or warrants could be adversely affected and the market price of our Class A common stock or warrants could decrease. Delisting could also adversely affect our securityholders’ ability to trade or obtain quotations on our securities because of lower trading volumes and transaction delays. These factors could contribute to lower prices and larger spreads in the bid and ask price for our securities. Investors may also not be able to resell their Class A common stock or warrants at or above the price they paid for such securities or at all.

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

### **Recent Sales of Unregistered Securities**

None.

### **Issuer Purchases of Equity Securities**

None.

## **Item 3. Defaults Upon Senior Securities**

None.

## **Item 4. Mine Safety Disclosures**

None.

## **Item 5. Other Information**

None.

## **Item 6. Exhibits**

The following exhibits are filed as part of, or incorporated by reference into this Quarterly Report.

No.	Description of Exhibit	Form	Exhibit	Filing Date	Filed Herewith
10.1	<a href="#">Separation Agreement and General Release with Isaac Ro, dated as of August 11, 2022</a>	10-Q	<a href="#">10.5</a>	08/15/2022	
10.2	<a href="#">Separation Agreement, dated as of August 12, 2022, by and between Sema4 Holdings Corp. and Eric Schadt</a>	10-Q	<a href="#">10.6</a>	08/15/2022	
10.3	<a href="#">Amendment No.1 to the Employment of Agreement of Kevin Feeley, dated August 25, 2022</a>	<a href="#">8-K</a>	<a href="#">10.1</a>	<a href="#">8/26/2022</a>	
31.1*	<a href="#">Certification of Principal Executive Officer Pursuant to Securities Exchange Act Rules 13a-14(a) and 15(d)-14(a), as adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>				X
31.2*	<a href="#">Certification of Principal Financial Officer Pursuant to Securities Exchange Act Rules 13a-14(a) and 15(d)-14(a), as adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>				X
32.1**	<a href="#">Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>				X
32.2**	<a href="#">Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>				X
101.INS	XBRL Instance Document				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				X
101.SCH	XBRL Taxonomy Extension Schema Document				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				X
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				X
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101.)				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				X
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101.)				X

\* Filed herewith.

\*\* Furnished.

+ Certain of the exhibits and schedules to this Exhibit have been omitted in accordance with Regulation S-K Item 601(a)(5). The Company agrees to furnish a copy of all omitted exhibits and schedules to the SEC upon its request.

**Signatures**

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

**SEMA4 HOLDINGS CORP.**

Date: November 14, 2022

	<u>/s/ Katherine Stueland</u>
Name:	Katherine Stueland
Title:	Chief Executive Officer and Director (Principal Executive Officer)

Date: November 14, 2022

	<u>/s/ Kevin Feeley</u>
Name:	Kevin Feeley
Title:	Chief Financial Officer (Principal Financial Officer)

**CERTIFICATIONS**  
**PURSUANT TO RULES 13a-14(a) AND 15d-14(a)**  
**UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO**  
**SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Katherine Stueland, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Sema4 Holdings Corp. (the “registrant”);
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)) 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. 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
  - c. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer 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: November 14, 2022

By: /s/ Katherine Stueland

Katherine Stueland

Chief Executive Officer  
(Principal Executive Officer)

**CERTIFICATIONS**  
**PURSUANT TO RULES 13a-14(a) AND 15d-14(a)**  
**UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO**  
**SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Kevin Feeley, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Sema4 Holdings Corp. (the “registrant”);
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)) 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. 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
  - c. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer 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: November 14, 2022

By: /s/ Kevin Feeley

Kevin Feeley

Chief Financial Officer

(Principal Financial Officer)

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADDED BY  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Sema4 Holdings Corp. (the “registrant”) on Form 10-Q for the quarterly period ended September 30, 2022, as filed with the Securities and Exchange Commission (the “Report”), I, Katherine Stueland, Chief Executive Officer of the registrant, certify, pursuant to 18 U.S.C. §1350, as added by §906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. To my knowledge, the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the registrant.

Date: November 14, 2022

By: /s/ Katherine Stueland

Katherine Stueland

Chief Executive Officer  
(Principal Executive Officer)

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADDED BY  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Sema4 Holdings Corp. (the “registrant”) on Form 10-Q for the quarterly period ended September 30, 2022, as filed with the Securities and Exchange Commission (the “Report”), I, Kevin Feeley, Chief Financial Officer of the registrant, certify, pursuant to 18 U.S.C. §1350, as added by §906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. To my knowledge, the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the registrant.

Date: November 14, 2022

By: /s/ Kevin Feeley

Kevin Feeley

Chief Financial Officer  
(Principal Financial Officer)