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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 March 31, 2017

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 001-35817

CANCER GENETICS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**04-3462475**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

201 Route 17 North 2nd Floor
Rutherford, NJ 07070
(201) 528-9200
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No ☐

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☒
		Emerging growth company	☒

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

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

As of May 8, 2017, there were 19,761,729 shares of common stock, par value $0.0001 of Cancer Genetics, Inc. outstanding.

CANCER GENETICS, INC. AND SUBSIDIARIES
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PART I — FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

Cancer Genetics, Inc. and Subsidiaries
Consolidated Balance Sheets (Unaudited)
(in thousands, except par value)

	March 31, 2017	December 31, 2016
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	**$ 9,664**	$ 9,502
Accounts receivable, net of allowance for doubtful accounts	**12,675**	11,748
Other current assets	**2,018**	2,174
Total current assets	**24,357**	23,424
FIXED ASSETS, net of accumulated depreciation	**4,778**	4,738
OTHER ASSETS		
Restricted cash	**300**	300
Patents and other intangible assets, net of accumulated amortization	**1,451**	1,503
Investment in joint venture	**256**	268
Goodwill	**12,029**	12,029
Other	**194**	172
Total other assets	**14,230**	14,272
Total Assets	**$ 43,365**	$ 42,434
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable and accrued expenses	**$ 8,099**	$ 8,148
Obligations under capital leases, current portion	**229**	109
Deferred revenue	**432**	789
Term note, current portion	**—**	2,000
Total current liabilities	**8,760**	11,046
Term note	**4,779**	2,654
Obligations under capital leases	**616**	374
Deferred rent payable and other	**229**	290
Warrant liability	**7,620**	2,018
Deferred revenue, long-term	**436**	428
Total Liabilities	**22,440**	16,810
STOCKHOLDERS' EQUITY		
Preferred stock, authorized 9,764 shares, $0.0001 par value, none issued	**—**	—
Common stock, authorized 100,000 shares, $0.0001 par value, 19,756 and 18,936 shares issued and outstanding at March 31, 2017 and December 31, 2016, respectively	**2**	2
Additional paid-in capital	**144,457**	139,576
Accumulated (deficit)	**(123,534)**	(113,954)
Total Stockholders' Equity	**20,925**	25,624
Total Liabilities and Stockholders' Equity	**$ 43,365**	$ 42,434

See Notes to Unaudited Consolidated Financial Statements.

Cancer Genetics, Inc. and Subsidiaries
Consolidated Statements of Operations (Unaudited)
(in thousands, except per share amounts)

	Three Months Ended March 31,	
	2017	2016
Revenue	**$ 6,966**	$ 6,068
Cost of revenues	**4,209**	4,103
Gross profit	**2,757**	1,965
Operating expenses:		
Research and development	**1,110**	1,532
General and administrative	**3,477**	4,318
Sales and marketing	**971**	1,298
Total operating expenses	**5,558**	7,148
Loss from operations	**(2,801)**	(5,183)
Other income (expense):		
Interest expense	**(194)**	(126)
Interest income	**17**	4
Change in fair value of acquisition note payable	**(232)**	34
Change in fair value of warrant liability	**(7,294)**	17
Other expense	**(46)**	—
Total other (expense)	**(7,749)**	(71)
Loss before income taxes	**(10,550)**	(5,254)
Income tax (benefit)	**(970)**	—
Net (loss)	**$ (9,580)**	$ (5,254)
Basic and diluted net (loss) per share	**$ (0.51)**	$ (0.39)
Basic and diluted weighted-average shares outstanding	**18,904**	13,547

See Notes to Unaudited Consolidated Financial Statements.

Cancer Genetics, Inc. and Subsidiaries
Consolidated Statements of Cash Flows (Unaudited)
(in thousands)

	Three Months Ended March 31,	
	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES		
Net (loss)	**$ (9,580)**	$ (5,254)
Adjustments to reconcile net (loss) to net cash (used in) operating activities:		
Depreciation	**534**	518
Amortization	**83**	87
Provision for bad debts (recoveries)	**(21)**	—
Stock-based compensation	**435**	534
Change in fair value of acquisition note payable	**232**	(34)
Change in fair value of warrant liability	**7,294**	(17)
Amortization of debt issuance costs	**7**	4
Amortization of discount on debt	**7**	—
Loss in equity method investment	**12**	12
Loss on extinguishment of debt	**78**	—
Changes in:		
Accounts receivable	**(901)**	(1,828)
Other current assets	**156**	295
Other non-current assets	**28**	3
Accounts payable, accrued expenses and deferred revenue	**(694)**	(101)
Deferred rent payable and other	**(61)**	(6)
Net cash (used in) operating activities	**(2,391)**	(5,787)
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchase of fixed assets	**(178)**	(319)
Patent costs	**(31)**	(39)
Net cash (used in) investing activities	**(209)**	(358)
CASH FLOWS FROM FINANCING ACTIVITIES		
Principal payments on capital lease obligations	**(34)**	(41)
Proceeds from warrant exercises	**1,750**	—
Proceeds from Partners for Growth IV, L.P. term note	**6,000**	—
Principal payments on Silicon Valley Bank term note	**(4,667)**	—
Payment of debt issuance costs and loan fees	**(287)**	—
Net cash provided by (used in) financing activities	**2,762**	(41)
Net increase (decrease) in cash and cash equivalents	**162**	(6,186)
CASH AND CASH EQUIVALENTS		
Beginning	**9,502**	19,459
Ending	**$ 9,664**	$ 13,273
SUPPLEMENTAL CASH FLOW DISCLOSURE		
Cash paid for interest	**$ 269**	$ 97
SUPPLEMENTAL DISCLOSURE OF NONCASH INVESTING AND FINANCING ACTIVITIES		
Fixed assets acquired through capital lease arrangements	**$ 396**	$ —
Derivative warrants issued with debt	**1,004**	—

See Notes to Unaudited Consolidated Financial Statements.

Notes to Unaudited Consolidated Financial Statements

Note 1. Organization, Description of Business, Basis of Presentation and Recent Accounting Pronouncements

We are an emerging leader in the field of precision medicine, enabling individualized therapies in the field of oncology through our diagnostic products and services and molecular markers. We develop, commercialize and provide molecular- and biomarker-based tests and services that enable physicians to personalize the clinical management of each individual patient by providing genomic information to better diagnose, monitor and inform cancer treatment and that enable biotech and pharmaceutical companies engaged in oncology trials to better select candidate populations and reduce adverse drug reactions by providing information regarding genomic factors influencing subject responses to therapeutics. We have a comprehensive, disease-focused oncology testing portfolio. Our tests and techniques target a wide range of cancers, covering nine of the top ten cancers in prevalence in the United States, with additional unique capabilities offered by our FDA-cleared Tissue of Origin® test for identifying difficult to diagnose tumor types or poorly differentiated metastatic disease.

We were incorporated in the State of Delaware on April 8, 1999 and have offices and state-of-the-art laboratories located in California, New Jersey, North Carolina, Shanghai (China), and Hyderabad (India). Our laboratories comply with the highest regulatory standards as appropriate for the services they deliver including CLIA, CAP, NY State, California State and NABL (India). Our services are built on a foundation of world-class scientific knowledge and intellectual property in solid and blood-borne cancers, as well as strong academic relationships with major cancer centers such as Memorial Sloan-Kettering, Mayo Clinic, and the National Cancer Institute.

Basis of Presentation

The accompanying unaudited condensed financial statements of the Company have been prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”) for interim financial information and with the instructions for interim reporting as prescribed by the Securities and Exchange Commission. Accordingly, they do not include all of the information and footnotes required by accounting principles generally accepted in the United States of America for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary to make the financial statements not misleading have been included. As such, the information included in this quarterly report on Form 10-Q should be read in conjunction with the audited consolidated financial statements as of and for the year ended December 31, 2016, filed with the Securities and Exchange Commission on March 23, 2017. The consolidated balance sheet as of December 31, 2016, included herein was derived from the audited financial statements as of that date, but does not include all disclosures including notes required by GAAP. Interim financial results are not necessarily indicative of the results that may be expected for any future interim period or for the year ending December 31, 2017.

Liquidity and Going Concern

At March 31, 2017, our cash position and history of losses required management to asses our ability to continue operating as a going concern, according to FASB Accounting Standards Update No. 2014-15, Disclosure of Uncertainties about an Entity’s Ability to Continue as a Going Concern (“ASU 2014-15”). Management evaluated the history and operational losses to have a material effect on our ability to continue as a going concern, unless we take actions to alleviate those conditions. Our primary sources of liquidity have been funds generated from our debt financings and equity financings. We have reduced, and plan to continue reducing, our operating expenses, and expect to grow our revenue in 2017 and beyond, and have also increased our cash collections from our customers and third-party payors and plan to continue to improve our cash collection results.

Management believes that its existing cash and cash equivalents, taken together with the borrowings available from the Silicon Valley Bank line of credit, will be sufficient to fund the Company's operations for at least the next twelve months after filing this Quarterly Report on Form 10-Q.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers (Topic 606), requiring an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. As issued and amended, ASU 2014-09 will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective and permits the use of either a full retrospective or retrospective with cumulative effect transition method. The updated standard becomes effective for the Company in the first quarter of fiscal year 2018. Early adoption is permitted in the first quarter of fiscal year 2017. The Company believes its Biopharma Service revenue could be affected by the new standard. The Company is presently evaluating its Biopharma Service contacts for multiple elements and variable consideration provisions that may affect the timing of revenue recognition subsequent to ASU 2014-09’s adoption. The Company expects to

adopt the new standard on January 1, 2018, using the modified retrospective approach, which involves applying the new standard to all contracts initiated on or after the effective date and recording an adjustment to opening equity for pre-existing contracts that have remaining obligations as of the effective date.

In March 2016, the FASB issued ASU 2016-09, Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. Under this ASU, entities are permitted to make an accounting policy election to either estimate forfeitures on share-based payment awards, as required by current guidance, or to recognize forfeitures as they occur. The guidance became effective for interim and annual periods beginning after December 15, 2016. Effective January 1, 2017, we adopted this standard. We elected to recognize forfeitures on share-based payment awards as they occur. The adoption, along with the remaining provisions of ASU 2016-09, did not have a material impact on our consolidated financial statements.

Note 2. Revenue and Accounts Receivable

Revenue by service type for the three months ended March 31, 2017 and 2016 is comprised of the following (in thousands):

	Three Months Ended March 31,	
	2017	2016
Biopharma Services	**$ 3,719**	$ 3,350
Clinical Services	**2,954**	2,456
Discovery Services	**293**	262
	$ 6,966	$ 6,068

Accounts receivable by service type at March 31, 2017 and December 31, 2016 consists of the following (in thousands):

	March 31, 2017	December 31, 2016
Biopharma Services	**$ 3,315**	$ 3,683
Clinical Services	**10,310**	8,972
Discovery Services	**416**	480
Allowance for doubtful accounts	**(1,366)**	(1,387)
	$ 12,675	$ 11,748

Allowance for Doubtful Accounts (in thousands)	
Balance, December 31, 2016	$ 1,387
Bad debt recoveries	(21)
Balance, March 31, 2017	$ 1,366

Revenue for Biopharma Services are customized solutions for patient stratification and treatment selection through an extensive suite of DNA-based testing services. Clinical Services are tests performed to provide information on diagnosis, prognosis and theranosis of cancers to guide patient management. These tests can be billed to Medicare, another third party insurer or the referring community hospital or other healthcare facility. Discovery Services are services that provide the tools and testing methods for companies and researchers seeking to identify new DNA-based biomarkers for disease. The breakdown of our Clinical Services revenue (as a percent of total revenue) is as follows:

	Three Months Ended March 31,	
	2017	2016
Medicare	**14%**	15%
Other insurers	**23%**	22%
Other healthcare facilities	**6%**	4%
	43%	41%

We have historically derived a significant portion of our revenue from a limited number of test ordering sites, although the test ordering sites that generate a significant portion of our revenue have changed from period to period. Test ordering sites account for all of our Clinical Services along with a portion of the Biopharma Services revenue. Our test ordering sites are largely hospitals, cancer centers, reference laboratories, physician offices and biopharmaceutical companies. Oncologists and pathologists at these sites order the tests on behalf of the needs of their oncology patients or as part of a clinical trial sponsored by a biopharmaceutical company in which the patient is being enrolled. We generally do not have formal, long-term written agreements with such test ordering sites, and, as a result, we may lose a significant test ordering site at any time.

The top five test ordering sites during each of the three months ended March 31, 2017 and 2016 accounted for approximately 35% of our testing volumes. During the three months ended March 31, 2017, there was one biopharmaceutical company which accounted for approximately 11% of our total revenue. During the three months ended March 31, 2016, there were two biopharmaceutical companies which accounted for approximately 11% and 10% of our total revenue, respectively.

Note 3. Earnings Per Share

For purposes of this calculation, stock warrants, outstanding stock options and unvested restricted shares are considered common stock equivalents using the treasury stock method, and are the only such equivalents outstanding.

Basic net loss and diluted net loss per share data were computed as follows (in thousands except per share data):

	Three Months Ended March 31,	
	2017	2016
Numerator:		
Net (loss) for basic earnings per share	**$ (9,580)**	$ (5,254)
Change in fair value of warrant liability	**—**	17
Net (loss) for diluted earnings per share	**$ (9,580)**	$ (5,271)
Denominator:		
Weighted-average basic common shares outstanding	**18,904**	13,547
Assumed conversion of dilutive securities:		
Common stock purchase warrants	**—**	—
Potentially dilutive common shares	**—**	—
Denominator for diluted earnings per share – adjusted weighted-average shares	**18,904**	13,547
Basic net (loss) per share	**$ (0.51)**	$ (0.39)
Diluted net (loss) per share	**$ (0.51)**	$ (0.39)

The following table summarizes equivalent units outstanding that were excluded from the earnings per share calculation because their effects were anti-dilutive (in thousands):

	Three Months Ended March 31,	
	2017	2016
Common stock purchase warrants	**6,608**	4,362
Stock options	**2,520**	1,928
Restricted shares of common stock	**68**	98
	9,196	6,388

Note 4. Sale of Net Operating Losses

On February 22, 2017, we sold $18,177,059 of gross State of New Jersey NOL's relating to the 2014 and 2015 tax years for approximately $876,000 as well as $167,572 of state research and development tax credits. The sale resulted in the net receipt by the Company of approximately $970,000. This figure includes all costs and expenses associated with the sale of these state tax attributes as deducted from the gross sales price of $1,043,517.

Note 5. Term Notes and Line of Credit

On March 22, 2017, we refinanced our debt with Silicon Valley Bank ("SVB"), by repaying the outstanding term loan ("SVB Term Note"), which was scheduled to mature in April 2019, and entered into a new two year asset-based revolving line of credit agreement. The new SVB credit facility provides for an asset-based line of credit ("ABL") for an amount not to exceed the lesser of (a) $6.0 million or (b) 80% of eligible accounts receivable plus the lesser of 50% of the net collectable value of third party accounts receivable or three (3) times the average monthly collection amount of third party accounts receivable over the previous quarter. The ABL requires monthly interest payments at the Wall Street Journal prime rate plus 1.5% (5.5% at March 31, 2017) and matures on March 22, 2019. We paid to SVB a $30,000 commitment fee at closing and will pay a fee of 0.25% per year on the average unused portion of the ABL.

We concurrently entered into a new three year $6.0 million term loan agreement ("PFG Term Note") with Partners for Growth IV, L.P. ("PFG"). The PFG Term Note is an interest only loan with the full principal and any outstanding interest due at maturity on March 22, 2020. Interest is payable monthly at a rate of 11.5% per annum, with the possibility of reducing to 11.0% in 2018 based on achieving certain financial milestones set forth by PFG. We may prepay the PFG Term Note in whole or part at any time without penalty. We paid PFG a commitment fee of $120,000 at closing.

Both loan agreements require us to comply with certain financial covenants, including minimum adjusted EBITDA, revenue and liquidity covenants, and restrict us from, among other things, paying cash dividends, incurring debt and entering into certain transactions without the prior consent of the lenders. Repayment of amounts borrowed under the new loan agreements may be accelerated if an event of default occurs, which includes, among other things, a violation of such financial covenants and negative covenants.

Our obligations to SVB under the ABL facility are secured by a first priority security interest on substantially all of our assets, and our obligations under the PFG Term Note are secured by a second priority security interest subordinated to the SVB lien.

In connection with the PFG Term Note, we issued seven year warrants to the lenders to purchase an aggregate of 443,262 shares of our common stock at an exercise price of $2.82 per share. The number of warrants may be reduced by 20% subject to us achieving certain financial milestones set forth by PFG.

The following is a summary of long-term debt (in thousands):

	March 31, 2017	December 31, 2016
SVB Term Note, repaid in 2017	$ —	$ 4,667
PFG Term Note, net of discount of $992	5,008	—
Less unamortized debt issuance costs	229	13
Term notes, net	4,779	4,654
Less current maturities	—	2,000
Long-term portion	$ 4,779	$ 2,654

At March 31, 2017, the principal amount of the PFG Term Note of $6,000,000 is due in 2020.

Note 6. Stock-Based Compensation

We have two equity incentive plans: the 2008 Stock Option Plan (the "2008 Plan") and the 2011 Equity Incentive Plan (the "2011 Plan", and together with the 2008 Plan, the "Stock Option Plans"). The Stock Option Plans are meant to provide additional incentive to officers, employees and consultants to remain in our employment. Options granted are generally exercisable for up to 10 years.

At March 31, 2017, 758,101 shares remain available for future awards under the 2011 Plan and 133,154 shares remain available for future awards under the 2008 Plan.

A summary of employee and non-employee stock option activity for the three months ended March 31, 2017 is as follows:

	Options Outstanding			
	Number of Shares (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding January 1, 2017	2,198	$ 9.09	7.04	$ —
Granted	468	2.49		
Cancelled or expired	(146)	9.49		
Outstanding March 31, 2017	2,520	$ 7.84	7.10	$ 1,558
Exercisable March 31, 2017	1,381	$ 10.17	5.56	$ 161

Aggregate intrinsic value represents the difference between the fair value of our common stock and the exercise price of outstanding, in-the-money options.

As of March 31, 2017, total unrecognized compensation cost related to non-vested stock options granted to employees was $2,862,783 which we expect to recognize over the next 2.52 years.

As of March 31, 2017, total unrecognized compensation cost related to non-vested stock options granted to non-employees was $76,875 which we expect to recognize over the next 0.76 years. The estimate of unrecognized non-employee compensation is based on the fair value of the non-vested options as of March 31, 2017.

The fair value of options granted to employees is estimated on the grant date using the Black-Scholes option valuation model. This valuation model requires us to make assumptions and judgments about the variables used in the calculation, including the expected term (the period of time that the options granted are expected to be outstanding), the volatility of our common stock, a risk-free interest rate, and expected dividends. To the extent actual forfeitures differ from the estimates, the difference will be recorded as a cumulative adjustment in the period estimates are revised. No compensation cost is recorded for options that do not vest. We use the simplified calculation of expected life described in the SEC's Staff Accounting Bulletin No. 107, *Share-Based Payment*, and volatility is based on the historical volatility of our common stock. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for periods corresponding with the expected life of the option. We use an expected dividend yield of zero, as we do not anticipate paying any dividends in the foreseeable future. Forfeitures will be recorded when they occur.

The following table presents the weighted-average assumptions used to estimate the fair value of options granted to employees during the periods presented:

	Three Months Ended March 31, 2017
Volatility	**73.57%**
Risk free interest rate	**2.03%**
Dividend yield	**0.00%**
Term (years)	**6.00**
Weighted-average fair value of options granted during the period	**1.63**

In May 2014, we issued 200,000 options to our Director, Raju Chaganti, with an exercise price of $15.89. See Note 11 for additional information. The following table presents the weighted-average assumptions used to estimate the fair value of options reaching their measurement date for non-employees during the periods presented:

	Three Months Ended March 31,	
	2017	2016
Volatility	**77.41%**	75.92%
Risk free interest rate	**2.22%**	1.56%
Dividend yield	**0.00%**	0.00%
Term (years)	**7.14**	8.14

Restricted stock awards have been granted to employees, directors and consultants as compensation for services. At March 31, 2017, there was $315,049 of unrecognized compensation cost related to non-vested restricted stock granted to employees and directors; we expect to recognize the cost over 1.63 years.

The following table summarizes the activities for our non-vested restricted stock awards for the three months ended March 31, 2017:

	Non-vested Restricted Stock Awards	
	Number of Shares (in thousands)	Weighted-Average Grant Date Fair Value
Non-vested at January 1, 2017	80	$ 6.30
Vested	(10)	8.38
Cancelled	(2)	$ 11.36
Non-vested at March 31, 2017	68	$ 5.85

The following table presents the effects of stock-based compensation related to stock option and restricted stock awards to employees and non-employees on our Consolidated Statements of Operations during the periods presented (in thousands):

	Three Months Ended March 31,	
	2017	2016
Cost of revenues	**$ 59**	$ 69
Research and development	**50**	50
General and administrative	**300**	387
Sales and marketing	**26**	28
Total stock-based compensation	**$ 435**	$ 534

Note 7. Warrants

On March 22, 2017, we issued seven year warrants to PFG and certain of its affiliates to purchase an aggregate of 443,262 shares of our common stock at an exercise price of $2.82 per share, in conjunction with our debt refinancing described in Note 5. The number of warrants may be reduced by 20% subject to us achieving certain financial milestones set forth by PFG. The warrants can be net settled in common stock using the average 90-trading day price of our common stock. These warrants are defined in the table below as 2017 Debt derivative warrants.

During the three months ended March 31, 2017, the Company received approximately $1,750,000 from shareholders who exercised warrants to purchase 777,900 shares of common stock at $2.25. In addition, on March 28, 2017, warrant holders exercised warrants to purchase 90,063 shares of common stock at an exercise price of $2.25 per share using the net issuance exercise method whereby 45,162 shares were surrendered as payment in full of the exercise price resulting in a net issuance of 44,901 shares.

The following table summarizes the warrant activity for the three months ended March 31, 2017 (in thousands, except exercise price):

Issued With / For	Exercise Price		Warrants Outstanding January 1, 2017	2017 Warrants Issued	2017 Warrants Exercised	Warrants Outstanding March 31, 2017
Non-Derivative Warrants:						
Financing	$ 10.00		243	—	—	243
Financing	15.00		361	—	—	361
Debt guarantee	15.00		109	—	—	109
2015 Offering	5.00		3,450	—	—	3,450
Total non-derivative warrants	$ 6.42	C	4,163	—	—	4,163
Derivative Warrants:						
2016 Offerings	2.25	A	2,870	—	(868)	2,002
2017 Debt	2.82	B	—	443	—	443
Total derivative warrants	2.35	C	2,870	443	(868)	2,445
Total	$ 4.92	C	7,033	443	(868)	6,608

A These warrants are subject to fair value accounting and contain a contingent net cash settlement feature.

B These warrants are subject to fair value accounting and contain a net settlement provision that uses the 90-trading day price of our common stock. These warrants are subject to a 20% reduction if certain financial milestones are met.

C Weighted-average exercise prices are as of March 31, 2017.

Note 8. Fair Value of Warrants

The following table summarizes the derivative warrant activity subject to fair value accounting for the three months ended March 31, 2017 (in thousands):

Issued with/for	Fair value of warrants outstanding as of December 31, 2016	Fair value of warrants issued	Fair value of warrants exercised	Change in fair value of warrants	Fair value of warrants outstanding as of March 31, 2017
2016 Offerings	$ 2,018	$ —	$ (2,696)	$ 6,758	$ 6,080
2017 Debt	—	1,004	—	536	1,540
	$ 2,018	$ 1,004	$ (2,696)	$ 7,294	$ 7,620

The following tables summarize the assumptions used in computing the fair value of derivative warrants subject to fair value accounting at the date of issue or exercise during the three months ended March 31, 2017 and 2016, and at March 31, 2017 and December 31, 2016.

2016 Offerings	Exercised During the Three Months Ended March 31, 2017	As of March 31, 2017	As of December 31, 2016
Exercise price	$ 2.25	$ 2.25	$ 2.25
Expected life (years)	4.79	4.82	5.06
Expected volatility	76.29%	77.41%	72.82%
Risk-free interest rate	1.94%	1.93%	1.93%
Expected dividend yield	—%	—%	—%

2017 Debt	Issued During the Three Months Ended March 31, 2017	As of March 31, 2017
Exercise price	$ 2.82	$ 2.82
Expected life (years)	7.00	6.98
Expected volatility	74.61%	77.41%
Risk-free interest rate	2.22%	2.22%
Expected dividend yield	—%	—%

Note 9. Fair Value Measurements

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. The Fair Value Measurements and Disclosures Topic of the FASB Accounting Standards Codification requires the use of valuation techniques that are consistent with the market approach, the income approach and/or the cost approach. Inputs to valuation techniques refer to the assumptions that market participants would use in pricing the asset or liability. Inputs may be observable, meaning those that reflect the assumptions market participants would use in pricing the asset or liability developed based on market data obtained from independent sources, or unobservable, meaning those that reflect our own assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances. In that regard, the Topic establishes a fair value hierarchy for valuation inputs that give the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. The fair value hierarchy is as follows:

Level 1: Quoted prices (unadjusted) for identical assets or liabilities in active markets that we have the ability to access as of the measurement date.

Level 2: Significant other observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3: Significant unobservable inputs that reflect our own assumptions about the assumptions that market participants would use in pricing an asset or liability.

The following table summarizes the financial liabilities measured at fair value on a recurring basis segregated by the level of valuation inputs within the fair value hierarchy utilized to measure fair value (in thousands):

	March 31, 2017			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Warrant liability	**$ 7,620**	**$ —**	**$ —**	**$ 7,620**
Note payable	**346**	**—**	**—**	**346**
	$ 7,966	**$ —**	**$ —**	**$ 7,966**

	December 31, 2016			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Warrant liability	$ 2,018	$ —	$ —	$ 2,018
Note payable	114	—	—	114
	$ 2,132	$ —	$ —	$ 2,132

The ultimate payment to VenturEast will be the value of 84,278 shares of common stock at the time of payment. The value of the note payable to VenturEast was determined using the fair value of our common stock. During the three months ended March 31, 2017, we recognized a loss of approximately $232,000 due to the change in value of the note.

At March 31, 2017, the warrant liability consists of stock warrants issued as part of the 2016 Offerings that contain contingent redemption features and warrants issued as part of the debt refinancing outlined in Note 5. In accordance with derivative accounting for warrants, we calculated the fair value of these warrants, and the assumptions used are described in Note 8, “Fair Value of Warrants.” During the three months ended March 31, 2017, we recognized a loss of approximately $7,294,000 on the derivative warrants due to the increase in our stock price.

Realized and unrealized gains and losses related to the change in fair value of the VenturEast note and warrant liability are included in other income (expense) on the Consolidated Statements of Operations.

The following table summarizes the activity of the note payable to VenturEast, which was measured at fair value using Level 3 inputs (in thousands):

	Note Payable to VenturEast
Fair value at December 31, 2016	$ 114
Change in fair value	232
Fair value at March 31, 2017	$ 346

Note 10. Joint Venture Agreement

In November 2011, we entered into an affiliation agreement with the Mayo Foundation for Medical Education and Research (“Mayo”), subsequently amended. Under the agreement, we formed a joint venture with Mayo in May 2013 to focus on developing oncology diagnostic services and tests utilizing next generation sequencing. The joint venture is a limited liability company, with each party initially holding fifty percent of the issued and outstanding membership interests of the new entity (the “JV”).

The agreement requires aggregate capital contributions by us of up to $6.0 million, of which $2.0 million has been paid to date. The timing of the remaining installments is subject to the JV's achievement of certain operational milestones agreed upon by the board of governors of the JV. In exchange for its membership interest, Mayo’s capital contribution takes the form of cash, staff, services, hardware and software resources, laboratory space and instrumentation, the fair market value of which will be approximately equal to $6.0 million. Mayo’s continued contribution will also be conditioned upon the JV’s achievement of certain milestones.

Our share of the JV’s net loss was approximately $12,000 for each of the three months ended March 31, 2017 and 2016, and is included in research and development expense on the Consolidated Statements of Operations. We have a net receivable due from the JV of approximately $10,000 at March 31, 2017, which is included in other current assets in the Consolidated Balance Sheets.

The joint venture is considered a variable interest entity under ASC 810-10, but we are not the primary beneficiary as we do not have the power to direct the activities of the JV that most significantly impact its performance. Our evaluation of ability to impact performance is based on our equal board membership and voting rights and day-to-day management functions which are performed by the Mayo personnel.

Note 11. Related Party Transactions

We have a consulting agreement with Equity Dynamics, Inc. (“EDI”), an entity controlled by John Pappajohn, effective April 1, 2014 pursuant to which EDI receives a monthly fee of $10,000. Total expenses for the three months ended March 31, 2017 and 2016 were $30,000. As of March 31, 2017, we owed EDI $40,000.

In 2010, we entered into a three-year consulting agreement with Dr. Chaganti, which was subsequently renewed through December 31, 2016 pursuant to which Dr. Chaganti receives $5,000 per month for providing consulting and technical support services. Pursuant to the terms of the renewed consulting agreement, Dr. Chaganti received an option to purchase 200,000 shares of our common stock at a purchase price of $15.89 per share vesting over a period of four years. Total non-cash stock-based compensation recognized under the consulting agreement for the three months ended March 31, 2017 and 2016 was

$25,625 and $16,125, respectively. Also pursuant to the consulting agreement, Dr. Chaganti assigned to us all rights to any inventions which he may invent during the course of rendering consulting services to us. In exchange for this assignment, if the USPTO issues a patent for an invention on which Dr. Chaganti is listed as an inventor, we are required to pay Dr. Chaganti (i) a one-time payment of $50,000 and (ii) 1% of any net revenues we receive from any licensed sales of the invention. In the first quarter of 2016, we paid Dr. Chaganti $50,000 which was recognized as an expense in fiscal 2015 when one patent was issued.

Note 12. Contingencies

In the normal course of business, the Company may become involved in various claims and legal proceedings. In the opinion of management, the ultimate liability or disposition thereof is not expected to have a material adverse effect on our financial condition, results of operations, or liquidity.

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

As used herein, the “Company,” “we,” “us,” “our” or similar terms, refer to Cancer Genetics, Inc. and its wholly owned subsidiaries: Cancer Genetics Italia, S.r.l., Gentris, LLC and BioServe Biotechnologies (India) Private Limited, except as expressly indicated or unless the context otherwise requires. The following Management’s Discussion and Analysis of Financial Condition and Results of Operations (“MD&A”) is intended to help facilitate an understanding of our financial condition and our historical results of operations for the periods presented. This MD&A should be read in conjunction with the audited consolidated financial statements and notes thereto included in our annual report on Form 10-K filed with the SEC on March 23, 2017. This MD&A may contain forward-looking statements that involve risks and uncertainties. See “Cautionary Note Regarding Forward-Looking Statements” below.

Overview

We are an emerging leader in the field of precision medicine, enabling individualized therapies in the field of oncology through our diagnostic products and services and molecular markers. We develop, commercialize and provide molecular- and biomarker-based tests and services that enable physicians to personalize the clinical management of each individual patient by providing genomic information to better diagnose, monitor and inform cancer treatment and that enable biotech and pharmaceutical companies engaged in oncology trials to better select candidate populations and reduce adverse drug reactions by providing information regarding genomic factors influencing subject responses to therapeutics. We have a comprehensive, disease-focused oncology testing portfolio. Our tests and techniques target a wide range of cancers, covering nine of the top ten cancers in prevalence in the United States, with additional unique capabilities offered by our FDA-cleared Tissue of Origin® test for identifying difficult to diagnose tumor types or poorly differentiated metastatic disease.

Our vision is to become the oncology diagnostics partner for biopharmaceutical companies and clinicians by participating in the entire care continuum from bench to bedside. We believe the diagnostics industry is undergoing a rapid evolution in its approach to oncology testing, embracing precision medicine and individualized testing as a means to drive higher standards of patient treatment and disease management. Similarly, biopharmaceutical companies are increasingly engaging companies such as ours to provide information on clinical trial participants' molecular profiles in order to identify biomarker and genomic variations that may be responsible for differing responses to pharmaceuticals, and particularly to oncology drugs, thereby increasing the efficiency of trials while lowering related costs. We believe tailored therapeutics can revolutionize oncology medicine through molecular- and biomarker-based testing services, enabling physicians and researchers to target the factors that make each patient and disease unique.

Our services are performed at our state-of-the-art laboratories located in New Jersey, North Carolina, California, Shanghai (China), and Hyderabad, India. Our laboratories comply with the highest regulatory standards as appropriate for the services they deliver including CLIA, CAP, NY State, California State and NABL (India). Our services are built on a foundation of world-class scientific knowledge and intellectual property in solid and blood-borne cancers, as well as strong academic relationships with major cancer centers such as Memorial Sloan-Kettering, Mayo Clinic, and the National Cancer Institute.

Our clinical offerings include our portfolio of proprietary tests targeting hematological, urogenital and HPV-associated cancers, in conjunction with ancillary non-proprietary tests. Our proprietary tests target cancers that are difficult to prognose and predict treatment outcomes through currently available mainstream techniques. We provide our proprietary tests and services, along with a comprehensive range of non-proprietary oncology-focused tests and laboratory services, to oncologists and pathologists at hospitals, cancer centers, and physician offices, as well as biotech and pharmaceutical companies to support their clinical trials. Our proprietary tests are based principally on our expertise in specific cancer types, test development methodologies and proprietary algorithms correlating genetic events with disease specific information. Our portfolio primarily includes

comparative genomic hybridization (CGH) microarrays and next generation sequencing (NGS) panels, and DNA fluorescent in situ hybridization (FISH) probes.

The non-proprietary testing services we offer are focused in part on specific oncology categories where we are developing our proprietary tests. We believe that there is significant synergy in developing and marketing a complete set of tests and services that are disease focused and delivering those tests and services in a comprehensive manner to help with treatment decisions.

The insight that we develop in delivering the non-proprietary services are often leveraged in the development of our proprietary programs and now increasingly in the validation of our proprietary programs, such as MatBA and Focus::NGS.

We expect to continue to incur significant losses for the near future. We incurred losses of $15.8 million and $20.2 million for fiscal years ended December 31, 2016 and 2015, respectively, and $9.6 million for the three months ended March 31, 2017.

As of March 31, 2017, we had an accumulated deficit of $123.5 million.

Key Factors Affecting our Results of Operations and Financial Condition

Our overall long-term growth plan is predicated on our ability to develop and commercialize our proprietary tests, penetrate the Biopharma community to achieve more revenue supporting clinical trials and develop and penetrate the Indian market. Our proprietary tests include CGH microarrays, NGS panels, and DNA FISH probes. We continue to develop additional proprietary tests. To facilitate market adoption of our proprietary tests, we anticipate having to successfully complete additional studies with clinical samples and publish our results in peer-reviewed scientific journals. Our ability to complete such studies is dependent upon our ability to leverage our collaborative relationships with leading institutions to facilitate our research and obtain data for our quality assurance and test validation efforts.

We believe that the factors discussed in the following paragraphs have had and are expected to continue to have a material impact on our results of operations and financial condition.

Revenues

Our revenue is primarily generated through our Clinical Services and Biopharma Services. Clinical Services can be billed to Medicare, another third party insurer or the referring community hospital or other healthcare facility or patients in accordance with state and federal law. Biopharma Services are billed to the customer directly. While we have agreements with our Biopharma clients, volumes from these clients are subject to the progression and continuation of the clinical trials which can impact testing volume. We also derive limited revenue from Discovery Services, which are services provided in the development of new testing assays and methods. Discovery Services are billed directly to the customer.

We have historically derived a significant portion of our revenue from a limited number of test ordering sites, although the test ordering sites that generate a significant portion of our revenue have changed from period to period. Test ordering sites account for all of our Clinical Services revenue along with a portion of the Biopharma Services revenue. Our test ordering sites are hospitals, cancer centers, reference laboratories, physician offices and biopharmaceutical companies. Oncologists and pathologists at these sites order the tests on behalf of the needs of their oncology patients or as part of a clinical trial sponsored by a biopharmaceutical company in which the patient is being enrolled.

The top five test ordering clients during the three months ended March 31, 2017 and 2016 accounted for 35% of our testing volumes. During the three months ended March 31, 2017, one Biopharma client accounted for approximately 11% of our revenue. During the three months ended March 31, 2016, two Biopharma clients accounted for approximately 11% and 10% of our revenue, respectively.

We receive revenue for our Clinical Services from Medicare, other insurance carriers and other healthcare facilities. Some of our customers choose, generally at the beginning of our relationship, to pay for laboratory services directly as opposed to having patients (or their insurers) pay for those services and providing us with the patients' insurance information. A hospital may elect to be a direct bill customer and pay our bills directly, or may provide us with patient information so that their patients pay our bills, in which case we generally expect payment from their private insurance carrier or Medicare. In a few instances, we have arrangements where a hospital may have two accounts with us, so that certain tests are billed directly to the hospital, and certain tests are billed to and paid by a patient's insurer. The billing arrangements generally are dictated by our customers and in accordance with state and federal law.

For the three months ended March 31, 2017, Medicare accounted for approximately 14% of our total revenue, other insurance accounted for approximately 23% of our total revenue and other healthcare facilities accounted for 6% of our total revenue. On average, we generate less revenue per test from other healthcare facilities billed directly, than from other insurance payers.

Cost of Revenues

Our cost of revenues consists principally of internal personnel costs, including stock-based compensation, laboratory consumables, shipping costs, overhead and other direct expenses, such as specimen procurement and third party validation studies. We are pursuing various strategies to reduce and control our cost of revenues, including automating our processes through more efficient technology and attempting to negotiate improved terms with our suppliers. With our three acquisitions since 2014, we have made significant progress with integrating our resources and services in an effort to reduce costs. We will continue to assess other possible advantages to help us improve our cost structure.

Operating Expenses

We classify our operating expenses into three categories: research and development, sales and marketing, and general and administrative. Our operating expenses principally consist of personnel costs, including stock-based compensation, facility costs, outside services, laboratory consumables and overhead, development costs, marketing program costs and legal and accounting fees.

Research and Development Expenses. We incur research and development expenses principally in connection with our efforts to develop our proprietary tests. Our primary research and development expenses consist of direct personnel costs, laboratory equipment and consumables and overhead expenses. In 2013, we entered into a joint venture with the Mayo Foundation for Medical Education and Research, with a focus on developing oncology diagnostic services and tests utilizing next generation sequencing. These efforts have continued. All research and development expenses are charged to operations in the periods they are incurred.

General and Administrative Expenses. General and administrative expenses consist principally of personnel-related expenses, professional fees, such as legal, accounting and business consultants, occupancy costs, bad debt and other general expenses. We have experienced decreases in our general and administrative expenses but anticipate increases as we expand our business operations.

Sales and Marketing Expenses. Our sales and marketing expenses consist principally of personnel and related overhead costs for our sales team and their support personnel, travel and entertainment expenses, and other selling costs including sales collaterals and trade shows. We expect our sales and marketing expenses to increase as we expand into new geographies and add new clinical tests and services.

Seasonality

Our business experiences decreased demand during spring vacation season, summer months and the December holiday season when patients are less likely to visit their health care providers. We expect this trend in seasonality to continue for the foreseeable future.

Results of Operations

Three Months Ended March 31, 2017 and 2016

The following table sets forth certain information concerning our results of operations for the periods shown:

	Three Months Ended March 31,		Change	
(dollars in thousands)	**2017**	2016	**$**	**%**
Revenue	**$ 6,966**	$ 6,068	$ 898	15 %
Cost of revenues	**4,209**	4,103	106	3 %
Research and development expenses	**1,110**	1,532	(422)	(28)%
General and administrative expenses	**3,477**	4,318	(841)	(19)%
Sales and marketing expenses	**971**	1,298	(327)	(25)%
Loss from operations	**(2,801)**	(5,183)	2,382	(46)%
Interest income (expense)	**(177)**	(122)	(55)	45 %
Change in fair value of acquisition note payable	**(232)**	34	(266)	(782)%
Change in fair value of warrant liability	**(7,294)**	17	(7,311)	(43,006)%
Other expense	**(46)**	—	(46)	n/a
Loss before income taxes	**(10,550)**	(5,254)	(5,296)	101 %
Income tax (benefit)	**(970)**	—	(970)	n/a
Net (loss)	**$ (9,580)**	$ (5,254)	$ (4,326)	82 %

Non-GAAP Financial Information

In addition to disclosing financial results in accordance with United States generally accepted accounting principles ("GAAP"), the table below contains non-GAAP financial measures that we believe are helpful in understanding and comparing our past financial performance and our future results. The non-GAAP financial measures disclosed by the Company exclude the non- operating changes in the fair value of derivative instruments. These non-GAAP financial measures should not be considered a substitute for, or superior to, financial measures calculated in accordance with GAAP, and the financial results calculated in accordance with GAAP and reconciliations from these results should be carefully evaluated. Management believes that these non-GAAP measures provide useful information about the Company's core operating results and thus are appropriate to enhance the overall understanding of the Company's past financial performance and its prospects for the future. The non-GAAP financial measures in the table below include adjusted net (loss) and the related adjusted basic and diluted net (loss) per share amounts.

Reconciliation from GAAP to Non-GAAP Results (in thousands, except per share amounts):

	Three Months Ended March 31,	
	2017	2016
Reconciliation of net (loss):		
Net (loss)	**$ (9,580)**	$ (5,254)
ADD:		
Change in fair value of acquisition note payable	**232**	(34)
Change in fair value of warrant liability	**7,294**	(17)
Adjusted net (loss)	**$ (2,054)**	$ (5,305)
Reconciliation of net (loss) per share, basic and diluted:		
Basic and diluted net (loss) per share	**$ (0.51)**	$ (0.39)
Adjustments to net (loss)	**0.40**	—
Adjusted basic and diluted net (loss) per share	**$ (0.11)**	$ (0.39)
Basic and diluted weighted-average shares outstanding	**18,904**	13,547

Adjusted net (loss) decreased 61% to $2.1 million during the three months ended March 31, 2017, down from an adjusted net (loss) of $5.3 million during the three months ended March 31, 2016. Adjusted basic and diluted net (loss) per share decreased 72% to $0.11 during the three months ended March 31, 2017, down from $0.39 during the three months ended March 31, 2016.

Revenue

The breakdown of our revenue is as follows:

	Three Months Ended March 31,				Change	
	2017		2016			
(dollars in thousands)	$	%	$	%	$	%
Biopharma Services	**$ 3,719**	**53%**	$ 3,350	55%	$ 369	11%
Clinical Services	**2,954**	**43%**	2,456	41%	498	20%
Discovery Services	**293**	**4%**	262	4%	31	12%
Total Revenue	**$ 6,966**	**100%**	$ 6,068	100%	$ 898	15%

Revenue increased 15%, or $0.9 million, to $7.0 million for the three months ended March 31, 2017, from $6.1 million for the three months ended March 31, 2016, principally due to increased test volume in our clinical services and a higher number of active biopharma projects as we execute on a growing number of signed contracts with pharmaceutical and biotechnology companies. Our average revenue (excluding probe revenue) per test decreased to $398 per test for the three months ended March 31, 2017 from $424 per test for the three months ended March 31, 2016, principally due to the additional Clinical Services volume from our Los Angeles facility, which yields lower average revenue per test. Test volume increased by 19% from 10,327 tests for the three months ended March 31, 2016 to 12,310 tests for the three months ended March 31, 2017.

Revenue from Biopharma Services increased 11%, or $0.4 million, to $3.7 million for the three months ended March 31, 2017, from $3.4 million for the three months ended March 31, 2016, due to a higher number of active biopharma projects as we execute on a growing number of signed contracts with pharmaceutical and biotechnology companies. Revenue from Clinical Services customers increased by $0.5 million, or 20%, compared to the three months ended March 31, 2016, due to higher clinical volumes of the tests we perform.

Cost of Revenues

Cost of revenues increased 3%, or $0.1 million, for the three months ended March 31, 2017, principally due an increase in lab supplies of $0.3 million as a result of increased volume and revenues, partially offset by a $0.1 million reduction in compensation and a $0.1 million reduction in shipping, as a result of the Company's focus on reducing cost and improving gross margin. Gross margin improved to 40% during the three months ended March 31, 2017 from 32% during the three months ended March 31, 2016, due to cost reduction initiatives and synergies across locations.

Operating Expenses

Research and development expenses decreased 28%, or $0.4 million, to $1.1 million for the three months ended March 31, 2017, from $1.5 million for the three months ended March 31, 2016, principally due to a $0.5 million decrease in the costs of software and maintenance and reduced payroll and benefit costs of $0.2 million, offset by an increase in lab supplies of $0.4 million.

General and administrative expenses decreased 19%, or $0.8 million, to $3.5 million for the three months ended March 31, 2017, from $4.3 million for the three months ended March 31, 2016, principally due to a $0.2 million decrease in payroll and benefit costs, a $0.3 million decrease in professional services and a $0.2 million decrease in facility costs resulting from the elimination of building management fees at our North Carolina location.

Sales and marketing expenses decreased 25%, or $0.3 million, to $1.0 million for the three months ended March 31, 2017, from $1.3 million for the three months ended March 31, 2016, principally due to decreased compensation costs of $0.2 million and decreased travel costs of $0.1 million.

Interest Income (Expense)

Net interest expense increased 45% during the three months ended March 31, 2017 due to recognizing a loss on extinguishment of debt of $0.1 million.

Change in Fair Value of Acquisition Note Payable

The change in fair value of note payable resulted in approximately $0.2 million in non-cash expense for the three months ended March 31, 2017 and approximately $34,000 in non-cash income for the three months ended March 31, 2016. The fair value of the note representing part of the purchase price for BioServe increased during the three months ended March 31, 2017 as a consequence of an increase in our stock price.

Change in Fair Value of Warrant Liability

Changes in fair value of some of our common stock warrants may impact our quarterly results. Accounting rules require us to record certain of our warrants as a liability, measure the fair value of these warrants each quarter and record changes in that value in earnings. As a result of an increase in our stock price, we recognized non-cash expense of $7.3 million for the three months ended March 31, 2017. In the future, if our stock price increases, with all other factors being equal, we would record a non-cash charge as a result of changes in the fair value of our common stock warrants. Alternatively, if the stock price decreases, with all other factors being equal, we may record non-cash income.

We recognized non-cash income of $17,000 during the three months ended March 31, 2016 due to the expiration of other unexercised warrants.

Other Expense

During the three months ended March 31, 2017, we expensed approximately $46,000 of issuance costs associated with the derivative warrants issued as part of the 2017 debt refinancing.

Income Tax (Benefit)

During the three months ended March 31, 2017, we received approximately $1.0 million of net proceeds from the sale of state NOL's and state research and development credits. No such sales occurred in the first quarter of 2016.

Liquidity and Capital Resources

Sources of Liquidity

Our primary sources of liquidity have been funds generated from our debt financings and equity financings. In addition, we have generated funds from the following sources: (i) cash collections from customers and (ii) cash received from sale of state NOL's.

In general, our primary uses of cash are providing for operating expenses, working capital purposes and servicing debt. As of March 31, 2017, we have not borrowed on our line of credit, which allows for borrowings of up to $6.0 million.

Cash Flows

Our net cash flow from operating, investing and financing activities for the periods below were as follows:

	Three Months Ended March 31,	
(in thousands)	**2017**	2016
Cash provided by (used in):		
Operating activities	**$ (2,391)**	$ (5,787)
Investing activities	**(209)**	(358)
Financing activities	**2,762**	(41)
Net increase (decrease) in cash and cash equivalents	**$ 162**	$ (6,186)

We had cash and cash equivalents of $9.7 million at March 31, 2017, and $9.5 million at December 31, 2016.

The $0.2 million increase in cash and cash equivalents for the three months ended March 31, 2017, principally resulted from the proceeds from the exercise of warrants of $1.8 million and proceeds from refinancing our debt of $6.0 million, partially offset by $2.4 million of net cash used in operations, fixed asset additions of $0.2 million and principal payments made on the Silicon Valley Bank term note of $4.7 million. We also paid $0.3 million of debt issuance costs and loan fees pursuant to our refinanced debt.

The $6.2 million decrease in cash and cash equivalents for the three months ended March 31, 2016, principally resulted from $5.8 million of net cash used in operations and a $0.3 million used to purchase fixed assets.

At March 31, 2017, we had total indebtedness of $6.0 million, excluding capital lease obligations.

Cash Used in Operating Activities

Net cash used in operating activities was $2.4 million for the three months ended March 31, 2017. We used $0.9 million in net cash to fund our core operations, which included $0.3 million in cash paid for interest. We incurred additional uses of cash when adjusting for working capital items as follows: a net increase in accounts receivable of $0.9 million and a net decrease in accounts payable, accrued expenses and deferred revenue of $0.7 million, offset by a decrease in other current assets of $0.2 million.

For the three months ended March 31, 2016, we used $5.8 million in operating activities. We used $4.2 million in net cash to fund our core operations, which included $0.1 million in cash paid for interest. We incurred additional uses of cash when adjusting for working capital items as follows: a net increase in accounts receivable of $1.8 million; an decrease in other current assets of $0.3 million; and a net decrease in accounts payable, accrued expenses and deferred revenue of $0.1 million.

Cash Used in Investing Activities

Net cash used in investing activities was $0.2 million for the three months ended March 31, 2017 and principally resulted from the purchase of fixed assets.

Net cash used in investing activities was $0.4 million for the three months ended March 31, 2016 and principally resulted from the purchase of fixed assets.

Cash Provided by/Used in Financing Activities

Net cash provided by financing activities was $2.8 million for the three months ended March 31, 2017 and principally resulted from proceeds received from warrants exercised of $1.8 million and proceeds from refinancing our debt of $6.0 million, offset by principal payments made on our Silicon Valley Bank term note of $4.7 million and debt issuance costs and loan fees of $0.3 million related to our refinanced debt.

Net cash used in financing activities was $41,000 for the three months ended March 31, 2016 and principally resulted from payments made on capital leases.

Capital Resources and Expenditure Requirements

We expect to continue to incur material operating losses in the near future. It may take several years, if ever, to achieve positive operational cash flow. We may need to raise additional capital to fund our current operations, to repay certain outstanding indebtedness and to fund expansion of our business to meet our long-term business objectives through public or private equity offerings, debt financings, borrowings or strategic partnerships coupled with an investment in our company or a combination thereof. If we raise additional funds through the issuance of convertible debt securities, or other debt securities, these securities could be secured and could have rights senior to those of our common stock. In addition, any new debt incurred by the Company could impose covenants that restrict our operations and increase our interest expense. The issuance of any new equity securities will also dilute the interest of our current stockholders. Given the risks associated with our business, including our unprofitable operating history and our ability to develop additional proprietary tests, additional capital may not be available when needed on acceptable terms, or at all. If adequate funds are not available, we will need to curb our expansion plans or limit our research and development activities, which would have a material adverse impact on our business prospects and results of operations.

We believe that our current cash, taken together with the borrowings available from the Silicon Valley Bank line of credit, will support operations for at least the next 12 months from the date of this report. We continue to explore opportunities for additional equity or debt financing, and we are taking steps to improve our operating cash flow. We can provide no assurances that our current actions will be successful or that any additional sources of financing will be available to us on favorable terms, if at all, when needed. Our forecast of the period of time through which our current financial resources will be adequate to support our operations and the costs to support our general and administrative, sales and marketing and research and development activities are forward-looking statements and involve risks and uncertainties.

We expect our sales and marketing, research and development and other general and administrative expenses to increase as we continue to expand our business.

Our forecast of the period of time through which our current financial resources will be adequate to support our operations and our expected operating expenses are forward-looking statements and involve risks and uncertainties. Actual results could vary materially and negatively as a result of a number of factors, including:

- our ability to achieve revenue growth and profitability;
- the costs for funding the operations we recently acquired;
- our ability to improve efficiency of billing and collection processes;
- our ability to obtain approvals for our new diagnostic tests;
- our ability to execute on our marketing and sales strategy for our tests and gain acceptance of our tests in the market;
- our ability to obtain adequate reimbursement from governmental and other third-party payors for our tests and services;
- the costs, scope, progress, results, timing and outcomes of the clinical trials of our tests;
- the costs of operating and enhancing our laboratory facilities;
- our ability to succeed with our cost control initiative;
- the timing of and the costs involved in regulatory compliance, particularly if the regulations change;
- the costs of maintaining, expanding and protecting our intellectual property portfolio, including potential litigation costs and liabilities;
- our ability to manage the costs of manufacturing our tests;
- our rate of progress in, and cost of research and development activities associated with, products in research and early development;
- the effect of competing technological and market developments;
- costs related to expansion;
- our ability to secure financing and the amount thereof; and
- other risks and uncertainties discussed in our annual report on Form 10-K for the year ended December 31, 2016 and other reports, as applicable, we file with the Securities and Exchange Commission.

We expect that our operating expenses and capital expenditures will increase in the future as we expand our business. We plan to increase our sales and marketing headcount to promote our new clinical tests and services and to expand into new geographies and to continue our research and development expenditures associated with performing work with research collaborators, to expand our pipeline and to perform work associated with our research collaborations. For example, in 2011 we entered into an affiliation agreement to form a joint venture with the Mayo Foundation for Medical Education and Research pursuant to which we made an initial $1.0 million capital contribution in October 2013 and $1.0 million in the third quarter of 2014. We may make additional capital contributions of up to $4.0 million, subject to the joint venture entity's achievement of certain operational milestones. Until we can generate a sufficient amount of revenues to finance our cash requirements, which we may never do, we may need to raise additional capital to fund our operations.

Subject to the availability of financing, we may use significant cash to fund acquisitions.

In March 2017, we entered into a new line of credit with Silicon Valley Bank and refinanced our term note with a new lender, Partners for Growth. See Note 5 of Notes to Unaudited Consolidated Financial Statements included in Item 1 of this Quarterly Report on Form 10-Q.

Income Taxes

Over the past several years, we have generated operating losses in all jurisdictions in which we may be subject to income taxes. As a result, we have accumulated significant net operating losses and other deferred tax assets. Because of our history of losses and the uncertainty as to the realization of those deferred tax assets, a full valuation allowance has been recognized. We do not expect to report a benefit related to the deferred tax assets until we have a history of earnings, if ever, that would support the realization of our deferred tax assets. Utilization of these net operating loss carryforwards is subject to limitation due to ownership changes that may delay the utilization of a portion of the carryforwards.

Off-Balance Sheet Arrangements

Since inception, we have not engaged in any off-balance sheet activities as defined in Item 303(a)(4) of Regulation S-K.

Critical Accounting Policies and Significant Judgment and Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of our consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates based on historical experience and make various assumptions, which management believes to be reasonable under the circumstances, which form the basis for judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Section 107 of the JOBS Act provides that an "emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. However, we have chosen to "opt out" of such extended transition period, and as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

The notes to our audited consolidated financial statements in our annual report on Form 10-K for the year ended December 31, 2016 contain a summary of our significant accounting policies. We consider the following accounting policies critical to the understanding of the results of our operations:

- Revenue recognition;
- Accounts receivable and bad debts;
- Stock-based compensation; and
- Warrant liability.

Cautionary Note Regarding Forward-Looking Statements

Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995

This report on Form 10-Q contains forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 under Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential," or the negative of those terms, and similar expressions and comparable terminology intended to identify forward-looking statements. These statements reflect our current views with respect to future events. There are a number of important factors that could cause the actual results to differ materially from those expressed in any forward-looking statement made by us. These factors include, but are not limited to:

- our ability to achieve profitability by increasing sales of our laboratory tests and services and to continually develop and commercialize novel and innovative diagnostic tests and services for cancer patients;
- our ability to improve efficiency of billing and collection processes;
- our ability to obtain reimbursement from governmental and other third-party payors for our tests and services;
- our ability clinically validate our pipeline of tests currently in development;
- our ability to execute on our marketing and sales strategy for our tests and gain acceptance of our tests in the market;
- our ability to keep pace with rapidly advancing market and scientific developments;
- our ability to satisfy U.S. (including FDA) and international regulatory requirements with respect to our tests and services, many of which are new and still evolving;
- ability to raise additional capital to meet our liquidity needs;
- competition from clinical laboratory services companies, tests currently available or new tests that may emerge;
- our ability to maintain our clinical collaborations and enter into new collaboration agreements with highly regarded organizations in the cancer field so that, among other things, we have access to thought leaders in the field and to a robust number of samples to validate our tests;
- our ability to maintain our present customer base and obtain new customers;
- potential product liability or intellectual property infringement claims;
- our dependency on third-party manufacturers to supply or manufacture our products;
- our ability to attract and retain a sufficient number of scientists, clinicians, sales personnel and other key personnel with extensive experience in oncology, who are in short supply;

- our ability to obtain or maintain patents or other appropriate protection for the intellectual property in our proprietary tests and services;
- our dependency on the intellectual property licensed to us or possessed by third parties;
- our ability to expand internationally and launch our tests in emerging markets, such as India and Brazil;
- our ability to adequately support future growth; and
- the risk factors discussed in our annual report on Form 10-K for the year ended December 31, 2016, as updated in other reports, as applicable, that we file with the Securities and Exchange Commission.

Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of this quarterly report on Form 10-Q and, except as required by law, we undertake no obligation to update or review publicly any forward-looking statements, whether as a result of new information, future events or otherwise after the date of this quarterly report on Form 10-Q. You should read this quarterly report on Form 10-Q and the documents referenced herein and filed as exhibits completely and with the understanding that our actual future results may be materially different from what we expect.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Not applicable.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We evaluated, under the supervision and with the participation of the principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities and Exchange Act of 1934 ("Exchange Act"), as amended, as of March 31, 2017, the end of the period covered by this report on Form 10-Q. Based on this evaluation, our President and Chief Executive Officer (principal executive officer) and our Chief Operating Officer (principal financial officer) have concluded that our disclosure controls and procedures were effective at the reasonable assurance level at March 31, 2017.

Disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and (ii) is accumulated and communicated to management, including the principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Due to the inherent limitations of control systems, not all misstatements may be detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. Controls and procedures can only provide reasonable, not absolute, assurance that the above objectives have been met.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the three months ended March 31, 2017 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

In the normal course of business, the Company may become involved in various claims and legal proceedings. In the opinion of management, the ultimate liability or disposition thereof is not expected to have a material adverse effect on our financial condition, results of operations, or liquidity.

Item 1A. Risk Factors

There have been no material changes to the risk factors disclosed in Part 1, Item 1A, of our annual report on Form 10-K for the year ended December 31, 2016.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds from Sales of Registered Securities

On March 22, 2017, in connection with our debt refinancing, we issued seven year warrants to the lenders to purchase an aggregate of 443,262 shares of our common stock at an exercise price of $2.82 per share. The number of warrants may be reduced by 20% subject to us achieving certain financial milestones set forth by PFG. The issuance of the warrants and the underlying warrant shares was exempt from registration under Section 4(a)(2) of the Securities Act or 1933.

The above description of the terms of the warrant is qualified in its entirety by the full text of the warrant, which was filed as Exhibit 10.83 to the Annual Report on Form 10-K for the year ended December 31, 2016 and incorporated herein.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

On May 11, 2017, we entered into an employment agreement with Rita Shaknovich, M.D., Ph.D., which provides for her appointment as Chief Medical Officer and Chair of our Clinical Advisory Board of the Company, effective May 28, 2017 (“Employment Agreement”). The Employment Agreement provides for, among other things, (i) an annual base salary of $316,000, and (ii) eligibility for an annual cash bonus of up to 20% of her base salary. Pursuant to the terms of the Employment Agreement the Company will grant to Dr. Shaknovich an option to purchase 50,000 shares of the Company’s common stock under the Company’s current equity incentive plan. The Employment Agreement has an initial two year term and automatically renews for additional one-year terms.

The Employment Agreement also provides for post-termination benefits, subject to the execution of a release, including: (a) monthly payments equal to her base salary immediately prior to such termination for a period of six to twelve months (depending on length of service) in the event her employment is terminated without “cause” or she resigns for “good reason” not in connection with a “change of control”, (b) a lump sum payment equal to twelve months of her then base salary plus an amount equal to the prior year bonus in the event her employment terminated without “cause” or she resigns for “good reason” within twelve months following a change of control and (c) a lump sum payment equal to six months of her then base salary plus an amount equal to the prior year bonus in the event her employment terminated with “cause” or she resigns without “good reason” within twelve months following a change of control.

The Employment Agreement is attached hereto as Exhibit 10.1 and is incorporated herein by reference.

Item 6. Exhibits

See the Index to Exhibits following the signature page hereto, which Index to Exhibits is incorporated herein by reference.

SIGNATURE

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

Cancer Genetics, Inc.
(Registrant)

Date: May 12, 2017

/s/ Panna L. Sharma
Panna L. Sharma
President and Chief Executive Officer
(Principal Executive Officer)

Date: May 12, 2017

/s/ John A. Roberts
John A. Roberts
Chief Operating Officer
(Principal Financial Officer)

Date: May 12, 2017

/s/ Igor Gitelman
Igor Gitelman
Chief Accounting Officer
(Principal Accounting Officer)

INDEX TO EXHIBITS

Exhibit No.	Description
10.1	Employment Agreement, dated as of May 11, 2017 by and between the Company and Rita Shaknovich * +
31.1	Certification of Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under The Securities Exchange Act of 1934, as amended *
31.2	Certification of Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under The Securities Exchange Act of 1934, as amended *
32.1	Certifications 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 **
32.2	Certifications 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 **
101	The following materials from the Registrant's quarterly report on Form 10-Q for the quarter ended March 31, 2017, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheet at March 31, 2017 (unaudited) and December 31, 2016, (ii) Consolidated Statements of Operations for the three month periods ended March 31, 2017 and 2016 (unaudited), (iii) Consolidated Statements of Cash Flows for the three month periods ended March 31, 2017 and 2016 (unaudited) and (iv) Notes to Consolidated Financial Statements (unaudited)

* Filed herewith.

** Furnished herewith.

\+ Indicates a management contract or compensatory plan in which directors and/or executive officers are eligible to participate.

CANCER GENETICS, INC.

EMPLOYMENT AGREEMENT

This Employment Agreement (this "Agreement") is entered into as of the date of the last signature hereto ("Effective Date"), by and between Cancer Genetics, Inc., a Delaware corporation with its corporate headquarters at 201 Route 17 North, 2nd Floor, Rutherford, NJ 07070 (the "Company"), and Dr. Rita Shaknovich, ("Employee").

In consideration of the mutual covenants and conditions set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. **Employment.** The Company hereby employs Employee in the capacity of the Chief Medical Officer ("CMO") and Chair of the Clinical Advisory Board of the Company, reporting directly to the President and Chief Executive Officer of the Company (the "CEO"). Employee accepts such employment and agrees to perform such roles and provide such management and other services for the Company as are customary to such office and such additional responsibilities, consistent with the position as the Company's Chief Medical Officer and Chair of the Clinical Advisory Board, as may be assigned from time to time by the CEO. Medical directors, both employees and consultants, will report to Employee and Employee will share the responsibility of managing the activity, workflow and quality of the clinical laboratory directors and their teams, and will be responsible for designing and implementing a plan for strategic unified clinical laboratory oversight and portfolio development.

2. **Term.** The employment hereunder shall be for a period commencing on May 28, 2017 (the "Commencement Date") and ending on the two (2)-year anniversary of the Commencement Date (the "Initial Term"), unless earlier terminated as provided in Section 4 or 5. This Agreement shall be automatically renewed for successive one (1)-year periods thereafter, commencing upon the expiration of the Initial Term, unless earlier terminated as provided in Section 4 or 5. Employee's employment following the Commencement Date will be on a full-time business basis requiring the devotion of substantially all of Employee's productive business time for the efficient and successful operation of the business of the Company.

3. **Compensation and Benefits.**

3.1 **Cash Compensation.**

(a) For the performance of Employee's duties hereunder following the Commencement Date, the Company shall pay Employee an annual salary in the amount of three hundred and sixteen thousand dollars ($316,000.00) ("Base Compensation"). The Base Compensation shall be paid in installments every two weeks over twenty-six (26) pay periods per year, based on and in accordance with Company's regular payroll procedures.

3.2 **Bonus Plan.**

(a) Employee shall be entitled to participation in the performance bonus compensation plan further defined in Section 3.2(b). Additional detail of the performance bonus compensation plan will be provided in written detail to Employee once the performance bonus compensation plan is adopted

by the Board, which will occur within a reasonable time after the Commencement Date. Any bonus or incentive compensation paid to Employee shall be in addition to Base Compensation.

(b) Employee shall be eligible annually for a performance-based bonus of up to twenty percent (20%) of Base Compensation, or sixty-three thousand and two hundred dollars ($63,200.00). The amount of the bonus shall be determined by the Board and the Company CEO, based on their reasonable assessments of Employee's performance and the Company's performance against appropriate goals established annually by the Board or the Compensation Committee of the Board after consultation with the Employee, prior to the beginning of the period of time from which the performance of the Employee would be evaluated and measured for such bonus. If all such goals are achieved for a given period, the amount of the bonus will be up to twenty percent (20%) of Base Compensation for that period. Employee's bonus, as earned, shall be payable at the later of (i) the end of the first fiscal quarter of the company following the end of the period for which the bonus was earned, or (ii) upon the issuance of the independent auditors' report for the period ending when the bonus was earned. The first bonus period shall be for the period commencing on the Commencement Date and ending at the last day of the Company's fiscal year in which the Commencement Date occurs, unless the Board reasonably determines that results in a stub bonus period (defined as a period of three (3) months or less) that is so short as to be impractical (in which event the first bonus period shall be said stub bonus period plus the next full Company fiscal year after the Company fiscal year in which the Commencement Date occurs). Thereafter, the bonus plan period shall be the Company fiscal year.

3.3 **Stock Options and Restricted Stock Grant.**

(a) From time to time the Company may grant to employee under the Company's Stock Option Plan (or its successor stock plan) to purchase shares of the Company's common stock at a stated exercise price per share.

(b) Effective on the Commencement Date, the Company shall grant to Employee a stock option under the 2011 Stock Option Plan (the "Plan") to purchase fifty thousand (50,000) shares of Common Stock, with the exercise price of the stock options fixed under the Plan as of the Commencement Date, with the option to be treated as an incentive stock option to the greatest extent permitted by law and a non-qualified stock option as to the balance, vesting in equal installments over a forty-eight (48)-month period beginning on the Commencement Date (the "Stock Options"). In the event of a Change of Control as defined in section 4 hereof, the Stock Options shall become subject to accelerated vesting conditions.

3.4 **Benefits.** Employee and Employee’s dependents shall be entitled to such medical/dental, disability and life insurance coverage and such 401(k) plan and other retirement plan participation, vacation, sick leave and holiday benefits, if any, and any other benefits as are made available either to Company's other senior executives or to the Company's personnel generally, whichever is greater, all in accordance with the Company's benefits program in effect from time to time. The Employee is responsible for paying the employee's portion of the benefit costs consistent with other similarly situated employees of the Company. The medical/dental, disability and life benefits provided to Employee under this Section 3.4 shall continue until, and shall terminate, six (6) months after a Termination Event pursuant to Section 4 or Section 5 hereof, except to the extent that Employee receives comparable benefits at a future employer during the six (6) months after the Termination Event, in which case the pertinent benefits from the Company shall end upon Employee's enrollment in the future employer's benefit plan.

3.5 **Reimbursement of Expenses.** Employee shall be entitled to be reimbursed for all reasonable expenses including the cost of travel for business; home office operation; business meals and entertainment, incurred by Employee in performing her tasks, duties and responsibilities under Section 2 or otherwise in connection with and reasonably related to the furtherance of the Company's business. Employee shall submit expense reports and receipts documenting the expenses incurred in accordance with Company policy, and will comply with using the Company's electronic travel and expense software and travel planning systems.

3.6 **Mobile Device & Phones.** The Company shall provide a mobile phone that is compliant with the company policy and is HIPAA compliant. The Employee is welcome to use Employee's own device or phone, but it must be registered with the Information Technology department and must follow the Company's "BYOD" (Bring Your Own Device) policies, including but not limited to setting up of passwords, backups of information and compliance with email and communication policies.

3.7 **Moving Expenses. Intentionally Omitted.**

4. Change of Control.

4.1 In the event of a termination of Employee's employment hereunder by the Company without Cause or by Employee with Good Reason, within twelve (12) months following a Change of Control, the Company will promptly pay Employee, in lieu of the amounts required under Section 5.2(b) and in addition to the amounts required under Sections 3.4, 3.5 and 5.2(a), a severance amount, payable in a lump sum immediately upon the later of such termination of employment or Employee's execution of a Release in the form attached as Exhibit A (which the Company shall execute contemporaneously), equal to twelve (12) months base compensation, plus an amount equal to the prior year bonus.

4.2 In the event of a termination of Employee's employment hereunder by the Company with Cause or by Employee without Good Reason, within twelve (12) months following a Change of Control, the Company will promptly pay Employee, in lieu of the amounts required under Section 5.2(b) and in addition to the amounts required under Sections 3.4, 3.5 and 5.2(a), a severance amount, payable in a lump sum immediately upon the later of such termination of employment or Employee's execution of a Release in the form attached as Exhibit A (which the Company shall execute contemporaneously), equal to six (6) months base compensation, plus an amount equal to the prior year bonus.

4.3 As used herein, a "Change of Control" of the Company shall mean any of the following:

(i) the acquisition by any person(s) (individual, entity or affiliated or unaffiliated group) in one or a series of transactions (including, without limitation, issuance of shares by the Company or through merger of the Company with another entity) of direct or indirect record or beneficial ownership of 50% or more of the voting power with respect to matters put to the vote of the shareholders of the Company and, for this purpose, the terms "person" and "beneficial ownership" shall have the meanings provided in Section 13(d) or 14(d) of the Securities Exchange Act of 1934 or related rules promulgated by the Securities and Exchange Commission;

(ii) the commencement of or public announcement of an intention to make a tender or exchange offer for more than 50% of the then outstanding Shares of the common stock of the Company;

(iii) a sale of all or substantially all of the assets of the Company; or

(iv) the Board, in its sole and absolute discretion, determines that there has been a sufficient change in the stock ownership of the Company to constitute a change in control of the Company. Notwithstanding the foregoing, the following acquisitions shall not constitute a "Change of Control": (1) any capital raised by the Company (not used for a redemption of outstanding shares); (2) the closing of any transaction that in good faith may be reasonably characterized as an acquisition of another entity by the Company rather than the other way around; or (3) any acquisition of the Company or its shares by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company.

5. **Termination**

5.1 **Termination Events.** The employment hereunder will terminate upon the occurrence of any of the following events ("the Termination Event"):

(a) Employee dies; or

(b) The Company, by written notice to Employee or her personal representative, discharges Employee due to the inability to continue to perform the duties previously assigned to Employee hereunder prior to such injury, illness or disability for a continuous period exceeding 90 consecutive days or 180 out of 360 days by reason of injury, physical or mental illness or other disability, which condition has been certified by a physician reasonably acceptable to the Company; provided, however, that prior to discharging Employee due to such disability, the Company shall give a written statement of findings to Employee or her personal representative setting forth specifically the nature of the disability and the resulting performance failures, and Employee shall have a period of thirty (30) days thereafter to respond in writing to the Company's findings, whereupon the Company shall conduct a reasonable and fair hearing with the Employee and any supporting witnesses and evidence for the Employee to reach a final determination; or

(c) Employee is discharged by the Company for "Cause". As used in this Agreement, the term "Cause" shall mean:

(i) Employee's final and unappealed conviction of (or pleading guilty or "nolo contendere" to) any felony or a major misdemeanor involving dishonesty or moral turpitude; provided, however, that prior to discharging Employee for Cause, the Company shall give a written statement of findings to Employee setting forth specifically the grounds on which Cause is based, and Employee shall have a period often (10) days thereafter to respond in writing to the Company's findings; or

(ii) The Employee's (1) unreasonable failure to perform her duties, as determined by the Board of Directors, or (2) substantial and material breach of, or default under, this Agreement or the Proprietary Information and Invention Assignment Agreement (as defined herein), (3) The unreasonable failure of the Company, as determined by the Board of Directors, to meet reasonable benchmarks that are in control of the Employee, as may be agreed to from time to time by the

Employee and the Board of Directors. In the case of any of the conditions set forth in this Section 5.1(c)(ii), the Employee shall be given written notice of the intent of the Board of Directors to terminate the Employee's employment under this paragraph, and shall be permitted thirty (30) days from receipt of such written notice to promptly cure any such breach or default to the reasonable satisfaction of the Board.

(d) Employee is discharged by Company other than in accordance with Section 5.l(a)(c) (a termination "without Cause"), which the Company may do at any time, with at least thirty (30) days advance written notice, subject to the full performance of the obligations of the Company to the Employee pursuant to Section 4 or Section 5.2, as the case may be; or

(e) Employee voluntarily terminates her employment due to "Good Reason", which shall mean (i) a material default by the Company in the performance of any of its obligations hereunder, which default remains uncured by the Company for a period of thirty (30) days following receipt of written notice thereof to the Company from Employee; (ii) a material diminution of the roles, responsibilities or duties and/or the position, title or authority of Employee hereunder; or (iii) a requirement that Employee report to any person(s) other than the CEO; or

(f) Employee voluntarily terminates her employment without Good Reason, which Employee may do at any time with at least thirty (30) days advance notice.

5.2 **Effects of Termination.**

(a) Upon termination of Employee's employment hereunder for any reason, the Company will promptly pay Employee all Base Compensation owed to Employee and all bonuses earned, as previously defined in writing by the Company, and unpaid through the date of termination, which shall be the last day that Employee performs her duties for the Company (including, without limitation, salary and employee expenses reimbursements). Employee shall be paid for any performance bonus plan then in effect on a pro rata basis for that period of time during the fiscal year in which termination occurs, but such amount, if any shall only be paid at a commensurate time as other employees are paid their bonus amounts.

(b) Unless Section 4 applies (in which case Section 4, and not this Section 5.2(b), will be followed), and in addition to the amounts required under Sections 3.4, 3.5 and 5.2(a):

(i) Upon termination of Employee's employment under Sections 5.l(a), Company shall continue to pay the Base Compensation to the estate of the Employee for a period of ninety (90) days after such death.

(ii) Upon termination of Employee's employment under Section 5.l(b), the Company shall pay Employee, commencing immediately upon such termination of employment, monthly (or biweekly at the Company's discretion) amounts equal to the then applicable Base Compensation, excluding bonus, for a period of six (6) months after termination.

(c) Upon termination of Employee's employment under Section 5.l(d) or 5.1(e), the Company shall pay Employee, commencing immediately upon the later of such termination of employment or Employee's execution of a Release (which the Company shall execute

contemporaneously) in the form attached as Exhibit A, monthly (or biweekly at the Company's discretion) amounts equal to the then applicable Base Compensation, excluding bonus, for a period of one (1) months after termination for every four (4) months of service, for a minimum payment of six (6) months' Base Compensation and a maximum of twelve (12) months' Base Compensation.

(d) Upon termination of Employee's employment hereunder pursuant to Sections 5.l(b), 5.l(c), 5.l(d) or 5.1(f), Employee agrees as follows:

(i) Any amounts paid according to above Section 4 or Section 5, following a termination event as described therein, are paid to Employee only for so long as Employee does not provide services to any commercial firm, corporation or other business enterprise which is involved in the business of development, marketing or providing a diagnostic service offering proprietary DNA probe or microarray or next generation sequencing to cancer researchers or physician practitioners or biotech and pharma companies that serve the cancer markets and categories in direct competition with the Company ("Competitive Engagements"). Employee agrees not to engage in Competitive Engagements for a period of six (6) months after the date of termination. Nothing in this Section 5.2(d) shall prevent Employee from accepting employment engagements, after the date of termination of her employment with the Company, with non-commercial entities including but not limited to research and academic institutions.

(ii) Employee shall notify the Company in the event that she accepts a Competitive Engagement following six (6) months after her date of termination with the Company and she is still receiving payments according to above Sections 4 or 5. In such instance, Employee agrees and acknowledges that she will no longer be entitled to receive such payments from the Company.

(iii) The terms of the Cancer Genetics, Inc. Confidentiality, Proprietary Information and Inventions Agreement shall remain in effect for the time periods specified in this Agreement.

(iv) Employee will not knowingly, directly and actively solicit any individual to leave the Company's then full-time employ, for any reason, to join or be employed by any employer that then employs Employee as an employee, director, consultant or advisor.

(v) Employee will not knowingly, directly and actively induce any provider, agent, customer, supplier, distributor, or licensee of the Company to cease doing business with the Company or to breach its agreement with the Company.

(e) Employee acknowledges that monetary damages may not be sufficient to compensate the Company for any economic loss, which may be incurred by reason of breach of the restrictive covenants set forth in Section 5.2(d). Accordingly, in the event of any such breach, the Company shall, in addition to any remedies available to the Company at law, be entitled to seek equitable relief in the form of an injunction, precluding Employee from continuing to engage in such breach.

(f) If any restriction set forth in Section 5.2(d) is held to be unreasonable, then Employee and the Company agree, and hereby submit, to the reduction and limitation of such prohibition to such area or period as shall be deemed reasonable.

(g) Except as required by law, Employee agrees not to make to any person, including but not limited to customers of the Company, any statement that disparages the Company or which reflects negatively upon the Company, including but not limited to statements regarding the Company's financial condition, its officers, directors, shareholders, employees and affiliates. The Company agrees not to make to any person, including but not limited to customers of the Company, any statement that disparages Employee or which reflects negatively upon Employee, including but not limited to statements regarding her financial condition, qualifications and professional competence.

6. Conflicts of Interest

6.1 **Duty to Disclose.** Employee will provide the CEO and Board with a report on the existence of any actual conflicts of interest. In connection with any actual conflicts of interests, Employee will confidentially disclose the existence of any conflicts of interests, including her financial interest and the minimum about of facts necessary to assess the conflict of interest, to the CEO and Board or to any special committees with Board delegated powers considering the proposed transaction or arrangement. If the Board or committee has reasonable cause to believe that Employee has failed to disclose any actual conflict of interest, it shall inform Employee of the basis for such belief and afford Employee an opportunity to explain the alleged failure to disclose.

6.2 **Determining Whether a Conflict of Interest Exists.** After disclosure of the financial interest and the minimum about of facts necessary to assess the conflict of Interest, and after any discussion with the Employee, Employee shall excuse him/herself from the Board or committee meeting while the determination of whether a conflict of interest exists is discussed and voted upon. The remaining Board or committee members shall determine whether a conflict of interest exists. Notwithstanding the foregoing, however, prior approval of the Board of Directors shall not be required if the transaction falls below a *de minimis* threshold established by the Board.

6.3 **Addressing Conflict.** If the Board determines that Employee has an actual conflict of interest, the Company and Employee shall employ good faith actions to resolve the conflict of interest.

7. General Provisions.

7.1 **Assignment.** Neither party may assign or delegate any of her or its rights or obligations under this Agreement without the prior written consent of the other party.

7.2 **Entire Agreement.** This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and supersedes any and all prior written and verbal agreements between the parties.

7.3 **Modifications.** This Agreement may be changed or modified only by an agreement in writing signed by both parties hereto.

7.4 **Successors and Assigns.** The provisions of this Agreement shall inure to the benefit of, and be binding upon, the Company and its successors and permitted assigns and Employee and

Employee's legal representatives, heirs, legatees, distributees, assigns and transferees by operation of law, whether or not any such person shall have become a party to this Agreement and have agreed in writing to join and be bound by the terms and conditions hereof.

7.5 **Governing Law.** This Agreement shall be governed by, construed and enforced in accordance with, the laws of the State of New Jersey, and venue and jurisdiction for any disputes hereunder shall be heard in any court of competent jurisdiction in New Jersey for all purposes.

7.6 **Severability.** If any provision of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions shall nevertheless continue in full force and effect.

7.7 **Further Assurances.** The parties will execute such further instruments and take such further actions as may be reasonably necessary to carry out the intent of this Agreement.

7.8 **Notices.** Any notices or other communications required or permitted hereunder shall be in writing and shall be deemed received by the recipient when delivered personally or, if mailed, five (5) days after the date of deposit in the United States mail, certified or registered, postage prepaid and addressed, in the case of the Company, to the address set forth above, attention CEO, and in the case of Employee, to the address shown for Employee on the signature page hereof, or to such other address as either party may later specify by at least ten (10) days advance written notice delivered to the other party in accordance herewith.

7.9 **No Waiver.** The failure of either party to enforce any provision of this Agreement shall not be construed as a waiver of that provision, nor prevent that party thereafter from enforcing that provision of any other provision of this Agreement.

7.10 **Legal Fees and Expenses.** In the event of any disputes under this Agreement, each party shall be responsible for their own legal fees and expenses which it may incur in resolving such dispute, unless otherwise provided by applicable law or a court of competent jurisdiction.

7.11 **Counterparts.** This Agreement may be executed by exchange of facsimile signature pages and/or in counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

7.12 **Insurance on Employee.** The Company shall be entitled to obtain and maintain, at the Company's expense, key person life insurance on the life of the Employee, naming the Company as the beneficiary of such policy. Employee agrees to cooperate with the Company and take all reasonable actions necessary to obtain such insurance, such as taking usual and customary physical examinations and providing true and accurate personal, health related information for any application at no cost to Employee.

7.13 **Proprietary Information and Invention Assignment Agreement.** The terms of the proprietary information and invention assignment agreement to be signed by Employee on the Commencement Date (the "Proprietary Information and Invention Assignment Agreement") are incorporated herein by reference. If there is any conflict between the terms of the Proprietary Information and Invention Assignment Agreement and the terms of this Agreement, the terms of this Agreement shall prevail.

7.14 **409A Compliance.** All payments under this Agreement are intended to comply with or be exempt from the requirements of Section 409A of the Code and regulations promulgated thereunder ("Section 409A"). As used in this Agreement, the "Code" means the Internal Revenue Code of 1986, as amended. To the extent permitted under applicable regulations and/or other guidance of general applicability issued pursuant to Section 409A, the Company reserves the right to modify this Agreement to conform with any or all relevant provisions regarding compensation and/or benefits so that such compensation and benefits are exempt from the provisions of 409A and/or otherwise comply with such provisions so as to avoid the tax consequences set forth in Section 409A and to assure that no payment or benefit shall be subject to an "additional tax" under Section 409A. To the extent that any provision in this Agreement is ambiguous as to its compliance with Section 409A, or to the extent any provision in this Agreement must be modified to comply with Section 409A, such provision shall be read in such a manner so that no payment due to the Employee shall be subject to an "additional tax" within the meaning of Section 409A(a)(1)(B) of the Code. If necessary to comply with the restriction in Section 409A(a)(2)(B) of the Code concerning payments to "specified employees," any payment on account of the Employee's separation from service that would otherwise be due hereunder within six (6) months after such separation shall be delayed until the first business day of the seventh month following the Termination Date and the first such payment shall include the cumulative amount of any payments (without interest) that would have been paid prior to such date if not for such restriction. Each payment in a series of payments hereunder shall be deemed to be a separate payment for purposes of Section 409A. In no event may the Employee, directly or indirectly, designate the calendar year of payment. All reimbursements provided under this Agreement shall be made or provided in accordance with the requirements of Section 409A, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during the Employee's lifetime (or during a shorter period of time specified in this Agreement), (ii) the amount of expenses eligible for reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (iii) the reimbursement of an eligible expense will be made on or before the last day of the calendar year following the year in which the expense is incurred, and (iv) the right to reimbursement is not subject to liquidation or exchange for another benefit. Notwithstanding anything contained herein to the contrary, the Employee shall not be considered to have terminated employment with the Company for purposes of Section 5 unless the Employee would be considered to have incurred a "termination of employment" from the Company within the meaning of Treasury Regulation §1.409A-1(h)(1)(ii). In no event whatsoever shall the Company be liable for any additional tax, interest or penalty that may be imposed on the Employee by Section 409A or damages for failing to comply with Section 409A.

[Signature Page to Follow]

IN WITNESS WHEREOF, the Company and Employee have executed this Agreement, effective as of the day and year of the last signature below.

CANCER GENETICS, INC.

By: /s/ Panna Sharma

Date: 05/10/2017

Name: Panna Sharma
Title: CEO & President

EMPLOYEE

/s/ Dr. Rita Shaknovich
Dr. Rita Shaknovich

Date: 05/11/2017

Address:

EXHIBIT A

RELEASE

1. In exchange for the good and valuable consideration set forth in the Employment Agreement between the parties, the undersigned individual ("Releasor"), on her own behalf and on behalf of her heirs, beneficiaries and assigns, hereby releases and forever discharges Cancer Genetics, Inc. and its subsidiaries and all of their respective officers and directors, employees, agents, attorney, successors and assigns (collectively, "Company Group"), both individually and in their official capacities, from any and all liability, claims, demands, actions and causes of action of any type (collectively, "Claims") which Releasor has had in the past, now has, or might now have, through the date of the Releasor's execution of this Release, in any way resulting from, arising out of or connected with her employment by Cancer Genetics, Inc. and its subsidiaries (collectively, "Company") or its termination or pursuant to any federal, state or local employment law, regulation or other requirement (including without limitation, and such as each may be amended from time to time, the Title VII of the Civil Rights Act of 1964,; the Civil Rights Act of 1991, the Equal Pay Act, the Age Discrimination in Employment Act ("ADEA"), the Americans with Disabilities Act, ERISA (excluding COBRA), the Fair Credit Reporting Act, OSHA, the Genetic Information Nondiscrimination Act, the Family Medical Leave Act, the Fair Labor Standards Act, the Sarbanes Oxley Act of 2002, the False Claims Act, the New Jersey Law Against Discrimination, the Conscientious Employee Protection Act, the New Jersey Family Leave Act, the New Jersey False Claims Act). "Claims" also means any and all actions, charges, controversies, demands, causes of action, suits, rights, and/or claims whatsoever for debts, sums of money, wages, salary, severance pay, commissions, fees, bonuses, unvested stock options, vacation pay, sick pay, fees and costs, attorney's fees, losses, penalties, damages, including damages for pain and suffering and emotional harm, arising, directly or indirectly, out of any promise, agreement, offer letter, contract, understanding, common law, tort, statutes, and/or regulations.

2. Excluded from the scope of this Release is (i) any claim or right of Releasor under any policy or policies of directors and officers liability insurance maintained by the Company as in effect from time to time; and (ii) any right of or for indemnification or contribution pursuant to contract and/or the Articles of Incorporation or By-Laws (or other charter documents) of the Company that Releasor has or hereafter may acquire if any claim is asserted or proceedings are brought against Releasor including, without limitation, if by any governmental or regulatory agency, or by any customer, creditor, employee or shareholder of the Company, or by any self-regulatory organization, stock exchange or the like, arising out of or related or allegedly related to the undersigned individual being or having been an officer or employee of the Company or to any of her actions, inactions or activities as an officer or employee of the Company; (iii) any rights or claims that may arise after the date Releaser signs this Agreement; (iv) any claim for workers' compensation benefits (but it does apply to, waive and affect claims of discrimination and/or retaliation on the basis of having made a workers' compensation claim); (v) claims for unemployment benefits; (vi) any other claims or rights that by law cannot be waived in a private agreement between an employer and employee; or (vii) Releasor's rights to any vested benefits to which she is entitled under the terms of the applicable employee benefit plan (the "Excluded Claims").

3. This Agreement is not intended to, and shall not, in any way prohibit, limit or otherwise interfere with:

(a) Releasor's protected rights under federal, state or local employment discrimination laws (including, without limitation, the ADEA and Title VII) to communicate or file a charge with,

or participate in an investigation or proceeding conducted by, the Equal Employment Opportunity Commission ("EEOC") or similar federal, state or local government body or agency charged with enforcing employment discrimination laws. Therefore, nothing herein shall prohibit, interfere with or limit Releasor from filing a charge with, communicating with or participating in any manner in an investigation, hearing or proceeding conducted by, the EEOC or similar federal, state or local agency. However, Releasor shall not be entitled to any relief or recovery (whether monetary or otherwise), and Releasor hereby waives any and all rights to relief or recovery, under, or by virtue of, any such filing of a charge with, or investigation, hearing or proceeding conducted by, the EEOC or any other similar federal, state or local government agency relating to any claim that has been released herein;

(b) Releasor's protected right to test in any court, under the Older Workers Benefit Protection Act, or like statute or regulation, the validity of the waiver of rights under ADEA in this Agreement;

(c) Releasor's right to enforce the terms of this Agreement and to exercise her rights relating to any other Excluded Claims; or

(d) Releasor's protected rights under federal, state or local law to without notice to the Company: (i) communicate or file a charge with a government regulator; (ii) participate in an investigation or proceeding conducted by a government regulator; or (iii) receive an award paid by a government regulator for providing information.

4. Releasor represents and warrants that she has no charges, lawsuits, or actions pending in hers name against any of the Company Group relating to any claim that has been released in this Agreement. Releasor also represents and warrants that she has not assigned or transferred to any third party any right or claim against any of the Company Group that she has released herein. Except with respect to the Excluded Claims, Releasor covenants and agrees that she will not report, institute or file a charge, lawsuit or action (or encourage, solicit, or voluntarily assist or participate in, the reporting, instituting, filing or prosecution of a charge, lawsuit or action by a third party) against any of the Company Group with respect to any claim that has been released herein.

5. Releasor agrees, at the Company's request, to reasonably cooperate, by providing truthful information, documents and testimony, in any Company investigation, litigation, arbitration, or regulatory proceeding regarding events that occurred during Releasor's employment with the Company. This may include, for example, making herself reasonably available to consult with the Company's counsel, providing truthful information and documents, and to appear to give truthful testimony. The Company will, to the extent permitted by applicable law and court rules, reimburse Releasor for reasonable out-of-pocket expenses and actual lost wages that she incurs in providing any requested cooperation, so long as she provides advance written notice to the Company of her request for reimbursement and provides satisfactory documentation of the expenses and actual lost wages. Nothing in this section is intended to, and shall not, preclude or limit Releasor's protected rights described in the Excluded Claims.

6. Releasor confirms that has returned to the Company any and all Company documents, materials and information (whether in hardcopy, on electronic media or otherwise) related to Company business and/or containing any non-public information concerning the Company, as well as all equipment, keys, access cards, credit cards, computers, computer hardware and software, electronic devices and any other Company property in her possession, custody or control. Releasor also represents and warrants that she has not retained copies of any Company documents, materials or information (whether in hardcopy, on electronic media or otherwise). Releasor also agrees that

she will disclose to the Company all passwords necessary or desirable to enable the Company to access all information which she has password-protected on any of its computer equipment or on its computer network or system.

7. The undersigned individual further acknowledges that she has been advised by this writing that: (a) her waiver and release in this Release does not apply to any rights or claims that may arise after the execution date of this Release; (b) that she is encouraged by Company and has the right to consult with an attorney prior to executing this Release; (c) she has been provided with up to twenty-one (21) to review and consider this Release ; (d) she has seven (7) days following her execution and delivery of this Release to revoke this Agreement by so notifying the Company in writing (c/o the CEO); and (e) this Release shall not be effective until the date upon which the seven (7) day revocation period has expired unexercised (the "Effective Date"), which shall be the eighth day after this Release is executed by the undersigned individual.

8. The Company hereby releases and forever discharges the Releasor and her heirs, beneficiaries and representatives and assigns, both individually and in their official capacities, from any and all Claims (defined above) which it has had in the past, now has, or might now have, through the date of its execution and delivery of this Release, in any way resulting from, arising out of, or connected with Releasor's employment with the Company or separation therefrom. Company agrees not to take any action that is designed, specifically as to you or with respect to a class of similarly situated employees, to reduce or abrogate, or may reasonably be expected to result in an abridgement or elimination of, any rights of indemnification or contribution available to Releasor, as described above, or under any such policy or policies of directors and officers liability insurance, unless any such abridgement or elimination of rights also is generally applicable to all then-current officers and employees of the Company. Notwithstanding the foregoing, nothing herein shall constitute a release by Company against Releasor for fraud, theft, or illegal acts or omissions.

9. This Release does not constitute an admission by the Company or by the undersigned individual of any wrongful action or violation of any federal, state, or local statute, or common law rights, including those relating to the provisions of any law or statute concerning employment actions, or of any other possible or claimed violation of law or rights. This Release is entered into without reliance on any promise or representation, written or oral, other than those expressly contained herein, and it supersedes any other such promises, warranties or representations. This Release may not be modified or amended except in a writing signed by both the undersigned individual and a duly authorized officer of the Company.

10. This Release will bind the heirs, personal representatives, successors and assigns of both the undersigned individual and the Company, and inure to the benefit of both the undersigned individual and the Company and their respective heirs, successors and assigns. If any provision of this Release is determined to be invalid or unenforceable, in whole or in part, this determination will not affect any other provision of this Release and the provision in question will be modified by the court so as to be rendered enforceable. This Agreement will be deemed to have been entered into and will be construed and enforced in accordance with the laws of the state of New Jersey as applied to contracts made and to be performed entirely within New Jersey.

Cancer Genetics, Inc. Employee

By: _____ _____

Name/Title: __ Name: Dr. Rita Shaknovich

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Panna L. Sharma, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Cancer Genetics, Inc. (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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

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

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

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

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

5. The Registrant's other certifying officer 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: May 12, 2017

/s/ Panna L. Sharma

Panna L. Sharma
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John A. Roberts, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Cancer Genetics, Inc. (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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

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

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

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

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

5. The Registrant's other certifying officer 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: May 12, 2017

/s/ John A. Roberts

John A. Roberts
Chief Operating Officer
(Principal Financial Officer)

Exhibit 32.1

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

In connection with the quarterly report of Cancer Genetics, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Panna L. Sharma, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

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

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

Date: May 12, 2017

/s/ Panna L. Sharma
Panna L. Sharma
President and Chief Executive Officer
(Principal Executive Officer)

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.

Exhibit 32.2

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

In connection with the quarterly report of Cancer Genetics, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John A. Roberts, Chief Operating Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

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

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

Date: May 12, 2017

/s/ John A. Roberts
John A. Roberts.
Chief Operating Officer
(Principal Financial Officer)

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.