OvaScience, Inc.
Form 10-Q
August 03, 2017
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q
(Mark
One)

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

For the quarterly period ended June 30, 2017

OR

o 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: 001-35890

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

Delaware	45-1472564
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
9 4th Avenue Waltham, Massachusetts	02451
(Address of principal executive offices)	(Zip Code)

617-500-2802
(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, 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 x No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated

filer," "smaller reporting company" and emerging growth company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o	Accelerated filer x
Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o
Emerging Growth Company o	

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

As of July 31, 2017, there were 35,686,489 shares of the registrant's Common Stock, par value $0.001 per share, outstanding.

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For the Quarterly Period Ended June 30, 2017
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Part I. Financial Information
Item 1. Financial Statements

OvaScience, Inc.
Condensed Consolidated Balance Sheets
(Unaudited)
(In thousands, except share and per share data)

	As of June 30, 2017	As of December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$22,937	$ 43,930
Short-term investments	63,622	70,458
Prepaid expenses and other current assets	2,535	2,056
Total current assets	89,094	116,444
Property and equipment, net	3,956	5,572
Investment in joint venture	—	65
Long-term restricted cash	812	439
Other long-term assets	23	23
Total assets	$93,885	$ 122,543
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$3,275	$ 2,183
Accrued expenses and other current liabilities	8,544	11,026
Total current liabilities	11,819	13,209
Other non-current liabilities	925	1,116
Total liabilities	12,744	14,325
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000,000 shares authorized, no shares issued and outstanding	—	—
Common stock, $0.001 par value; 100,000,000 shares authorized; 35,686,489 and 35,641,505 shares issued and outstanding at June 30, 2017 and December 31, 2016, respectively	36	36
Additional paid-in capital	364,739	358,419
Accumulated other comprehensive loss	(49)	(60)
Accumulated deficit	(283,585)	(250,177)
Total stockholders' equity	81,141	108,218
Total liabilities and stockholders' equity	$93,885	$ 122,543

See accompanying notes.

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OvaScience, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)
(In thousands, except per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Revenues	$84	$189	$147	$335
Costs and expenses:				
Costs of revenues	274	1,233	543	2,409
Research and development	4,997	5,987	10,761	11,942
Selling, general and administrative	10,751	11,210	17,880	25,664
Restructuring	1,992	—	3,480	—
Total costs and expenses	18,014	18,430	32,664	40,015
Loss from operations	(17,930)	(18,241)	(32,517)	(39,680)
Interest income, net	186	161	368	335
Other income (expense), net	25	(22)	(35)	(49)
Loss from equity method investment	(454)	(416)	(875)	(807)
Loss before income taxes	(18,173)	(18,518)	(33,059)	(40,201)
Income tax expense	13	50	22	125
Net loss	$(18,186)	$(18,568)	$(33,081)	$(40,326)
Net loss per share—basic and diluted	$(0.51)	$(0.62)	$(0.93)	$(1.41)
Weighted average number of shares used in net loss per share—basic and diluted	35,664	30,036	35,653	28,668
Net loss	$(18,186)	$(18,568)	$(33,081)	$(40,326)
Other comprehensive loss:				
Unrealized gains on available-for-sale securities	10	16	11	179
Comprehensive loss	$(18,176)	$(18,552)	$(33,070)	$(40,147)

See accompanying notes.

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OvaScience, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(In thousands)

	Six Months Ended June 30,	
	2017	2016
Cash flows from operating activities:		
Net loss	$(33,081)	$(40,326)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	951	1,067
Impairment of property and equipment related to restructuring	250	—
Amortization of premium on debt securities	91	498
Stock-based compensation expense	5,918	5,717
Issuance of common stock for director fees	74	77
Net loss on equity method investment	875	807
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	(29)	544
Accounts payable	1,101	(921)
Accrued expenses, deferred rent and other non-current liabilities	(3,425)	1,208
Net cash used in operating activities	(27,275)	(31,329)
Cash flows from investing activities:		
Investment in joint venture	—	(750)
Purchases of plant and equipment	(101)	(868)
Maturities of short-term investments	50,232	35,413
Sales of short-term investments	—	23,089
Purchases of short-term investments	(43,476)	(27,142)
Decrease (increase) in restricted cash	(373)	197
Net cash by in investing activities	6,282	29,939
Cash flows from financing activities:		
Net proceeds from the issuance of common stock	—	53,949
Issuances of common stock under benefit plans, net of withholding taxes paid	—	111
Net cash provided by financing activities	—	54,060
Net (decrease) increase in cash and cash equivalents	(20,993)	52,670
Cash and cash equivalents at beginning of period	43,930	43,224
Cash and cash equivalents at end of period	$22,937	$95,894

See accompanying notes.

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OvaScience, Inc.
Notes to Unaudited, Condensed Consolidated Financial Statements

1. Organization

OvaScience, Inc., incorporated on April 5, 2011 as a Delaware corporation, is a global fertility company developing proprietary potential treatments for female fertility based on scientific discoveries about the existence of egg precursor, or EggPC℠, cells. As used in these condensed consolidated financial statements, the terms “OvaScience,” “the Company,” “we,” “us,” and “our” refer to the business of OvaScience, Inc. and its wholly owned subsidiaries. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, acquiring and developing our technology, identifying potential fertility treatments, developing the AUGMENT℠ treatment, preparing for the launch of the AUGMENT treatment in select international in vitro fertilization ("IVF") clinics, researching and developing the OvaTure℠ treatment and the OvaPrime℠ treatment, and determining the regulatory and development path for our fertility treatments. We have generated limited revenues to date, and do not anticipate significant revenues in the near term. On June 21, 2017, we announced that we continue to be focused on advancing OvaTure℠ in preclinical development and OvaPrime℠ in clinical development, will discontinue ongoing efforts related to the AUGMENT℠ treatment outside of North America, and will restructure our organization to better align with these strategic priorities, including reducing our workforce by approximately 50%.

We are subject to a number of risks similar to other life science companies, including, but not limited to, the need to obtain adequate additional funding, possible failure to provide our treatments to IVF clinics to gain clinical experience in select countries outside of the United States, the need to obtain marketing approval for certain of our fertility treatments, competitors developing new technological innovations, the need to successfully commercialize and gain market acceptance of our fertility treatments and protection of proprietary technology. If we do not successfully commercialize any of our fertility treatments, we will be unable to generate treatment revenue or achieve profitability. As of June 30, 2017, we had an accumulated deficit of approximately $283.6 million.

Liquidity

We have incurred annual net operating losses in each year since our inception. We have generated limited treatment revenues related to our primary business purpose and have financed our operations primarily through public sales of our common stock and private placements of our preferred stock, which was subsequently converted to common stock.

We have devoted substantially all of our financial resources and efforts to the research and development of our OvaTure and OvaPrime fertility treatments and the introduction of the AUGMENT treatment in select international IVF clinics. We expect to continue to incur significant expenses related to the research and development of OvaTure and OvaPrime and incur operating losses for at least the next several years.

We expect that our existing cash, cash equivalents and short-term investments of $86.6 million at June 30, 2017, will be sufficient to fund our current operating plan for at least the next 12 months from the date of filing this Form 10-Q. There can be no assurances, however, that the current operating plan will be achieved or that additional funding, if needed, will be available on terms acceptable to us, or at all.

2. Basis of presentation and significant accounting policies

Basis of Presentation

The accompanying interim unaudited condensed consolidated financial statements have been prepared by OvaScience in accordance with accounting principles generally accepted in the United States of America (“GAAP”). These condensed consolidated financial statements include the accounts of OvaScience and the accounts of our wholly-owned subsidiaries. All intercompany transactions have been eliminated in consolidation. Certain reclassifications have been made to previously reported amounts to conform to the current presentation.

Certain information and footnote disclosures normally included in our annual financial statements have been omitted. In the opinion of management, the unaudited interim financial statements reflect all adjustments, which with the exception of restructuring accruals described in Note 9, consisted of normal and recurring adjustments, necessary for the fair presentation of our financial position at June 30, 2017, results of our operations for the three and six months ended June 30, 2017 and 2016 and our cash flows for the six months ended June 30, 2017 and 2016.

The results for the three and six months ended June 30, 2017 are not necessarily indicative of future results. These condensed consolidated financial statements should be read in conjunction with the audited financial statements for the year ended December 31, 2016, which are contained in our Annual Report on Form 10-K for the year ended December 31, 2016

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("2016 Annual Report on Form 10-K") that was filed with the Securities and Exchange Commission ("SEC") on March 2, 2017.

Use of estimates and summary of significant accounting policies

These condensed consolidated financial statements are presented in conformity with GAAP, which requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

Our significant accounting policies are described in Note 2, "Summary of Significant Accounting Policies," in our 2016 Annual Report on Form 10-K.

In the first quarter of 2017, we adopted Accounting Standard Update (ASU) ASU 2016-09 Compensation - Stock Based Compensation and have changed our accounting policy regarding the accounting for forfeitures and have elected to account for forfeitures as they occur. We adopted ASU 2016-09, using a modified retrospective approach and recorded a cumulative catch-up to retained earnings of approximately $0.3 million.

Net loss per share

Basic and diluted net loss per common share is calculated by dividing net loss by the weighted average number of shares outstanding during the relevant period. Potentially dilutive shares, including outstanding stock options and unvested restricted stock units, are only included in the calculation of diluted net loss per share when their effect is dilutive.

The amounts in the table below were excluded from the calculation of diluted net loss per share due to their anti-dilutive effect (in thousands):

	As of June 30,	
	2017	2016
Outstanding stock options and restricted stock units	7,469	5,598

Recent accounting pronouncements

In May 2017, the Financial Accounting Standards Board (FASB) issued ASU No. 2017-09, Compensation - Stock Compensation (Topic 718) - Scope of Modification Accounting. ASU 2017-09 clarifies the term modification and provides guidance on when to apply modification accounting, specifically when changes to the terms or conditions of a share-based payment occur. Entities should account for the effects of a modification unless all of the following conditions are met: (1) there is no change in the fair value of the award, (2) there is no change in the vesting conditions, and (3) there is no change in classification of the award as liability or equity. This update is for entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and requires prospective application. Early adoption is permitted for public entities for reporting periods for which financial statements have not yet been issued. We early adopted ASU 2017-09 for the period ending June 30, 2017 and the adoption of ASU 2017-09 did not have a material impact on our financial statements and the footnotes thereto.

In November 2016, the FASB issued ASU No. 2016-18, Statement of Cash Flows (Topic 230) - Restricted Cash. ASU 2016-18 requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. This update is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years using a retrospective transition method to each period presented. Early adoption is permitted. We do not believe the adoption of ASU 2016-18 will have a material impact on our consolidated financial statements and footnote disclosures thereto.

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. ASU 2016-15 requires changes in the presentation of debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and distributions received from equity method investees. This update is effective for annual and interim periods beginning after December 15, 2017 using a retrospective transition method to each period presented. Early adoption is permitted. We do not believe the adoption of ASU 2016-15 will have a material impact on our consolidated financial statements.

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In February 2016, the FASB issued ASU No. 2016-02, Leases, which is intended to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Under ASU 2016-02, a lessee will be required to recognize assets and liabilities for both operating and financing leases with lease terms of more than 12 months. In addition, ASU 2016-02 requires the use of the modified retrospective method, which will require adjustment to all comparative periods presented in the consolidated financial statements. The amendment is effective for annual periods beginning after December 15, 2018, and interim periods within those annual periods. Early adoption is permitted. We are currently assessing the impact that adopting this new accounting standard will have on our consolidated financial statements and footnote disclosures thereto.

In August 2015, the FASB issued ASU No. 2015-14, which defers the effective date of ASU No. 2014-09 by one year. ASU 2014-09 amends the guidance for accounting for revenue from contracts with customers. ASU 2014-09 supersedes the revenue recognition requirements in Accounting Standards Codification Topic 605, Revenue Recognition, and creates a new Topic 606, Revenue from Contracts with Customers. This guidance is now effective for fiscal years beginning after December 15, 2017, with early adoption permitted for annual periods beginning after December 15, 2016. Two adoption methods are permitted: retrospectively to all prior reporting periods presented, with certain practical expedients permitted; or retrospectively with the cumulative effect of initially adopting the ASU 2014-09 recognized at the date of initial application. We currently plan to adopt ASU 2015-14 as of January 1, 2018 using the modified retrospective approach and to apply the standard only to contracts that have not yet been completed as of the adoption date. Due to the limited revenues we have generated for the periods presented, we do not believe the adoption of ASU 2015-14 will have a material impact on our consolidated financial statements and footnotes disclosures thereto.

3. OvaXon Joint Venture

In December 2013, we entered into a joint venture with Intrexon Corporation (“Intrexon”) to leverage Intrexon’s synthetic biology technology platform and our technology relating to EggPC cells to focus on developing significant improvements in human and animal health. We and Intrexon formed OvaXon, LLC (“OvaXon”) to conduct the joint venture. Each party initially contributed $1.5 million of cash to OvaXon in December 2013, each has a 50% equity interest and all costs and profits will be split accordingly. Each party will also have 50% control over OvaXon and any disputes between us and Intrexon will be resolved through arbitration, if necessary.

We consider OvaXon a variable interest entity. OvaXon does not have a primary beneficiary as both we and Intrexon have equal ability to direct the activities of OvaXon through membership in a Joint Steering Committee and an Intellectual Property Committee and 50% voting rights. OvaXon is accounted for under the equity method and is not consolidated. This analysis and conclusion is updated annually or as changes occur to reflect any changes in ownership or control over OvaXon.

We recorded losses from equity method investments related to OvaXon of $0.5 million and $0.9 million for the three and six months ended June 30, 2017, respectively. We recorded losses from equity method investments related to OvaXon of $0.4 million and $0.8 million for the three and six months ended June 30, 2016, respectively. Neither we nor Intrexon made additional contributions for the six months ended June 30, 2017. Each party contributed an additional $0.8 million during the six months ended June 30, 2016. As of June 30, 2017, OvaXon incurred expenses of $0.8 million in excess of our cumulative investment to-date, which is included within accrued expenses on our condensed consolidated balance sheet as we committed to provide additional funding in 2017. As of December 31, 2016, our investment in OvaXon was approximately $0.1 million.

4. Fair value

The fair value of our financial assets reflects our estimate of amounts that we would have received in connection with the sale of such asset in an orderly transaction between market participants at the measurement date. In connection with measuring the fair value of our assets, we seek to maximize the use of observable inputs (market data obtained from independent sources) and to minimize the use of unobservable inputs (our assumptions about how market participants would price assets). We use the following fair value hierarchy to classify assets based on the observable inputs and unobservable inputs we used to value our assets:

•Level 1—quoted prices (unadjusted) in active markets for identical assets.

- Level 2—quoted prices for similar assets in active markets or inputs that are observable for the asset, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.
- Level 3—unobservable inputs based on our assumptions used to measure assets at fair value.

For fixed income securities, we reference pricing data supplied by our custodial agent and nationally known pricing vendors, using a variety of daily data sources, largely readily-available market data and broker quotes. The prices provided by third-party pricing services are validated by reviewing their pricing methods and obtaining market values from other pricing sources.

The following tables provide our assets that are measured at fair value on a recurring basis as of June 30, 2017 and December 31, 2016 (in thousands):

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Description	Balance as of June 30, 2017	Level 1	Level 2	Level 3
Assets:				
Cash and money market funds	$22,937	$22,937	$—	$ —
Corporate debt securities (including commercial paper)	63,622	—	63,622	—
Total	$86,559	$22,937	$63,622	$ —

Description	Balance as of December 31, 2016	Level 1	Level 2	Level 3
Assets:				
Cash and money market funds	$ 43,930	$43,930	$—	$ —
Corporate debt securities (including commercial paper)	70,458	—	70,458	—
Total	$ 114,388	$43,930	$70,458	$ —

5. Cash, cash equivalents and short-term investments

The following tables summarize our cash, cash equivalents and short-term investments at June 30, 2017 and December 31, 2016 (in thousands):

June 30, 2017	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and money market funds	$ 22,937	$ —	$ —	$ 22,937
Corporate debt and U.S government securities				
Due in one year or less	63,671	—	(49)	63,622
Total	$ 86,608	$ —	$ (49)	$ 86,559
Reported as:				
Cash and cash equivalents	$ 22,937	$ —	$ —	$ 22,937
Short-term investments	63,671	—	(49)	63,622
Total	$ 86,608	$ —	$ (49)	$ 86,559

December 31, 2016	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and money market funds	$ 43,930	$ —	$ —	$ 43,930
Corporate debt and U.S government securities				
Due in one year or less	62,505	3	(45)	62,463
Due in two years or less	8,013	—	(18)	7,995
Total	$ 114,448	$ 3	$ (63)	$ 114,388
Reported as:				
Cash and cash equivalents	$ 43,930	$ —	$ —	$ 43,930
Short-term investments	70,518	3	(63)	70,458
Total	$ 114,448	$ 3	$ (63)	$ 114,388

At June 30, 2017 and December 31, 2016, we held seventeen and twenty-one debt securities that had been in an unrealized loss position for less than 12 months, respectively. At June 30, 2017 and December 31, 2016, the aggregate fair value of the securities in an unrealized loss position for less than 12 months was $46.4 million and $46.6 million, respectively. We evaluate our securities for other-than-temporary impairments based on quantitative and qualitative factors, and we considered the decline in market value for the seventeen debt securities in an unrealized loss position as of June 30, 2017 to be primarily attributable to the then current economic and market conditions. We will likely not be required to sell these securities, and do not intend to sell these securities before the recovery of their amortized cost bases, which recovery is expected within the next 12 months. Based on our analysis, we do not consider these

investments to be other-than-temporarily impaired as of June 30, 2017.

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As of June 30, 2017, we held $4.7 million in financial institution debt securities and other corporate debt securities located in Australia and Japan. As of December 31, 2016, we held $11.5 million in financial institution debt securities and other corporate debt securities located in Canada, the United Kingdom, New Zealand, Norway and Sweden.

We had no realized gains and no realized losses on our short-term investments for the three and six months ended June 30, 2017. We had immaterial realized gains and no realized losses on our short-term investments for the three and six months ended June 30, 2016.

6. Property and equipment

Property and equipment and related accumulated depreciation and amortization are as follows (in thousands):

	As of June 30, 2017	As of December 31, 2016
Laboratory equipment	$4,136	$ 5,184
Furniture	775	793
Computer equipment	208	208
Leasehold improvements	2,754	2,815
Total property and equipment, gross	7,873	9,000
Less: accumulated depreciation and amortization	(3,917)	(3,428)
Total property and equipment, net	$3,956	$ 5,572

We recorded depreciation and amortization expense of $0.5 million and $1.0 million for the three and six months ended June 30, 2017, respectively. We recorded depreciation and amortization expense of $0.6 million and $1.1 million for the three and six months ended June 30, 2016, respectively.

In December 2016, we initiated a corporate restructuring and in January 2017, we commenced a search to find a buyer for certain excess fixed assets, primarily comprised of laboratory equipment. As of January 31, 2017, we met the criteria to classify such assets as held-for-sale and estimated the fair value less costs to sell these assets at $0.5 million. In June 2017, we initiated the first part of our plan to sell a portion of the fixed assets classified as held-for-sale consisting primarily of fixed assets located domestically. We anticipate completing the sale of these assets in July 2017. We anticipate completing the sale of the remaining assets, primarily those located internationally, by the end of the third quarter of 2017. The $0.5 million of fixed assets are classified as held-for-sale and included within other current assets on our condensed consolidated balance sheets for the period ending June 30, 2017.

In June 2017, we expanded our restructuring efforts and announced we will discontinue ongoing efforts related to the AUGMENT treatment outside of North America (refer to Note 9 for additional details on our restructuring activities). As a result, we evaluated our fixed assets for impairment as of June 2017, the time in which the decision was made to execute the additional restructuring. In performing the recoverability test, we concluded that a portion of the carrying value of our assets was not recoverable. We recorded an impairment charge of $0.3 million related to these assets after comparing the fair value of the fixed assets to their carrying values. We determined the fair value of the assets subject to impairment based on expected future cash flows using Level 2 inputs under ASC 820.

7. Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consist of the following as of June 30, 2017 and December 31, 2016 (in thousands):

	As of June 30, 2017	As of December 31, 2016
Compensation and related benefits	$4,655	$ 5,869
Development, site costs and contract manufacturing	277	524
Legal, audit and tax services	889	1,280
Consulting	150	888

Other accrued expenses and other current liabilities	2,574	2,465
	$8,545	$ 11,026

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8. Stock-based compensation

Stock options

A summary of our stock option activity and related information is as follows:

	Shares	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2016	4,611,392	$ 14.42	8.23	$ 45
Granted	4,165,356	1.52		
Exercised	—	—		
Forfeited/Canceled	(1,357,539)	10.87		
Outstanding at June 30, 2017	7,419,209	7.82	8.7	318
Exercisable at June 30, 2017	2,290,901	15.56	7.1	47
Vested and expected to vest at June 30, 2017	7,419,209	7.82	8.7	318

No stock options were exercised during the three and six months ended June 30, 2017. The total intrinsic value (the amount by which the fair market value exceeded the exercise price) of stock options exercised was $0.1 million for the three and six months ended June 30, 2016.

The fair value of each stock-based option award is estimated on the grant date using the Black-Scholes option pricing model with the following assumptions:

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Risk-free interest rate	1.3% - 2.0%	1.4% - 1.5%	1.3% - 2.2%	1.4% - 2.0%
Dividend yield	—	—	—	—
Volatility	89%-109%	86%-89%	89%-109%	78%-89%
Expected term (years)	1.8-6.9	5.3-9.9	1.8-6.9	5.3-9.9

As of June 30, 2017, we had approximately $11.6 million of total unrecognized compensation cost, related to unvested stock options, which we expect to recognize over a weighted-average period of 2.6 years.

During the three and six months ended June 30, 2017, we granted options to purchase 2,183,106 and 4,015,356 shares of our common stock to employees at weighted average grant date fair values of $1.11 and $1.15 per share, respectively, and with weighted average exercise prices of $1.46 and $1.51 per share, respectively. During the three and six months ended June 30, 2016, we granted options to purchase 446,450 and 1,487,100 shares of our common stock at weighted average grant date fair values of $5.28 and $5.27 per share, respectively, and with weighted average exercise prices of $7.32 and $7.48 per share, respectively.

We granted 150,000 options to purchase common stock with a weighted average exercise price of $1.60 per share to non-employees for both the three and six months ended June 30, 2017. We granted 10,000 options to purchase common stock with a weighted average exercise price of $9.69 per share to non-employees for both the three and six months ended June 30, 2016. Stock-based awards issued to non-employees are revalued at each reporting date until vested.

On June 21, 2017, we executed an advisory agreement (the, "Advisory Agreement") with Dr. Dipp, our Executive Chair which provides for Dr. Dipp to transition to an advisory role with us effective September 1, 2017 and to provide advisory services to us through December 31, 2018. Under terms of the Advisory Agreement, as in effect on June 30, 2017, in the event Dr. Dipp's engagement with us terminates or a change of control occurs, all of Dr. Dipp's unvested awards will vest and remain exercisable for a period of two years.

The Advisory Agreement resulted in a modification to Dr. Dipp's outstanding equity based awards. We reviewed Dr. Dipp's vested and unvested awards as of June 21, 2017 (the "Modification Date") and recognized share-based compensation expense of $0.1 million for the three and six months ended June 30, 2017 as a result of the

modification, for the incremental fair value of the awards immediately after modification when compared to the fair value of the awards immediately prior to modification.

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The service period for Dr. Dipp to earn any unvested awards as of the Modification Date is not considered substantive and resulted in recognizing share-based compensation expense of $2.7 million. This expense represented the unrecognized compensation expense for Dr. Dipp's unvested awards as of the Modification Date for awards that were granted in June 2014, December 2014 and March 2017, and the fair value of the stock options awards granted in conjunction with the execution of the Advisory Agreement. All but $0.3 million of the $2.7 million in share-based compensation expense related to the June 2014 and December 2014 option grants. The Advisory Agreement has subsequently been amended to permit the accelerated vesting of the June 2014 and December 2014 option grants prior to December 31, 2018 only in the event of a future termination "without cause" or resignation for "good reason."

For the three and six months ended June 30, 2017, we recorded share-based compensation expense of $2.8 million as a result of the Advisory Agreement within selling, general and administrative expenses on our condensed consolidated statements of operations and comprehensive loss.

Restricted stock units

A summary of our unvested restricted stock unit activity and related information is as follows:

	Shares	Weighted average grant date fair value
Outstanding at December 31, 2016	50,000	$ 7.15
Granted	—	—
Vested	—	—
Forfeited	—	—
Outstanding at June 30, 2017	50,000	$ 7.15

As of June 30, 2017, we had approximately $0.3 million of total unrecognized compensation cost related to 50,000 non-vested service-based RSUs granted under our 2012 Stock Incentive Plan. We expect to cancel these awards during the third quarter of 2017.

9. Restructuring

In December, 2016, we initiated a reduction in workforce of approximately 30% in connection with our change in corporate strategy, primarily related to the commercialization strategy associated with our AUGMENT treatment. As of June 30, 2017, we have recognized substantially all restructuring charges related to our December 2016 restructuring activities, approximately $6.9 million comprised of $2.4 million recorded as one-time termination benefits, $1.7 million as a benefit under an ongoing benefit plan, $2.0 million of fixed asset impairment charges and $0.8 million of other restructuring related charges including legal fees and contract cancellation fees.

On June 21, 2017, we initiated a reduction in workforce of approximately 50% in connection with our decision to focus on the development and advancing of OvaTure and OvaPrime and no longer offer the AUGMENT treatment on a commercial basis outside of North America. We anticipate incurring total restructuring costs of approximately $2.4 million to $2.9 million related to our June 2017 restructuring and anticipate completing substantially all activities associated with our June 2017 restructuring by the third quarter of 2017.

For the three months ended June 30, 2017, we recognized restructuring charges of $2.0 million including $1.3 million of one-time termination benefits, $0.3 million of benefits under an ongoing benefit plan, $0.3 million of fixed asset impairment charges and $0.1 million of legal fees. For the six months ended June 30, 2017, we recognized restructuring charges of $3.5 million, including $2.3 million of one-time termination benefits, $0.3 million recorded of benefits under an ongoing benefit plan and $0.3 million of fixed asset impairment charges. Our restructuring charges for the three and six months ended June 30, 2017, are included in our condensed consolidated statements of operations and comprehensive loss. For the six months ended June 30, 2017, we made cash payments of $4.1 million primarily related to severance benefits, all of which relate to our December 2016 restructuring. As of June 30, 2017, our restructuring accrual was $2.5 million and was recorded in accrued expenses and other current liabilities in our condensed consolidated balance sheet. Since the execution of our restructuring activities, we have incurred a total of $8.9 million of restructuring charges, of which $6.9 million relates to our December 2016 restructuring activities and

$2.0 million relates to our June 2017 restructuring activities.
We did not record any restructuring expenses during the three and six months ended June 30, 2016.

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The following table outlines our restructuring activities for the six months ended June 30, 2017 (in thousands):

Accrued Restructuring Balance as of December 31, 2016	$3,406
Plus:	
Severance	2,671
Other	500
Less:	
Payments	(4,110)
Accrued Restructuring Balance as of June 30, 2017	$2,467

Other restructuring costs consist primarily of professional fees including legal fees and contract termination fees.

In June 2017, the Compensation Committee of the Board of Directors approved cash and stock option retention incentive awards for certain remaining eligible employees who will continue employment with us in order to execute our strategic priorities. Cash awards totaling $0.8 million will be payable to these employees over the subsequent one year and six months based on continued employment and services performed during these periods. Stock option awards for 390,000 shares were also granted to these employees and will vest quarterly over two years from the date of grant.

10. Commitments and contingencies

On October 9, 2015, a purported class action lawsuit was filed in the Suffolk County Superior Court in the Commonwealth of Massachusetts against the Company, several of the Company's officers and directors and certain of the underwriters from the Company's January 2015 follow-on public offering of the Company's common stock. The plaintiffs purport to represent those persons who purchased shares of the Company's common stock pursuant or traceable to the Company's January 2015 follow-on public offering. The plaintiffs allege, among other things, that the Company made false and misleading statements and failed to disclose material information in the Company's January 2015 Registration Statement and incorporated offering materials. Plaintiffs allege violations of Sections 11, 12 and 15 of the Securities Act of 1933, as amended, and seek, among other relief, unspecified compensatory damages, rescission, pre-and post-judgment interest and fees, costs and disbursements. On December 7, 2015, the OvaScience, Inc. defendants filed a notice of removal with the Federal District Court for the District of Massachusetts. On December 30, 2015, plaintiffs filed a motion to remand the action to the Superior Court. Oral argument on the motion to remand was held on February 19, 2016. On February 23, 2016, the District Court granted plaintiffs' motion to remand the action to the Superior Court. On February 26, 2016, a second putative class action suit was filed in the Suffolk County Superior Court in the Commonwealth of Massachusetts against the Company, several of the Company's officers and directors and certain of the underwriters from the Company's January 2015 follow-on public offering of the Company's common stock. The complaint is substantially similar to the complaint filed in October 2015. The two actions subsequently were consolidated and plaintiffs filed a First Amended Class Action Complaint on June 17, 2016. Defendants filed motions to dismiss the complaint. Those motions were denied by order dated December 22, 2016. The parties currently are engaged in discovery and are briefing a class certification motion. The Company believes that the complaint is without merit and intends to defend against the litigation. There can be no assurance, however, that the Company will be successful. A resolution of this lawsuit adverse to the Company or the other defendants could have a material effect on the Company's consolidated financial position and results of operations in the period in which the lawsuit is resolved. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On November 9, 2016, a purported shareholder derivative action was filed against certain present and former officers and directors of the company alleging breaches of fiduciary duty, unjust enrichment, abuse of control, gross mismanagement and corporate waste for purported actions related to the Company's January 2015 follow-on public offering. On February 23, 2017, the court approved the parties' joint stipulation to stay all proceedings in the action until further notice. The Court has calendared a status conference for December 2017. The Company believes that the complaint is without merit and intends to defend against the litigation. There can be no assurance, however, that the Company will be successful. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On March 24, 2017, a purported shareholder class action lawsuit was filed in federal district court for the District of Massachusetts against the Company and certain of our present and former officers alleging violations of Sections

10(b) and 20(a) of the Securities Exchange Act of 1934. On June 5, 2017, the Court appointed Freedman Family Investments, LLC as lead plaintiff, the firm of Robins Geller Rudman & Dowd LLP as lead counsel and the Law Office of Alan L. Kovacs as local counsel. Plaintiff is scheduled to file an amended complaint on august 21, 2017. We believe that the complaint is without merit and intend to defend against the litigation. There can be no assurance, however, that we will be successful. A resolution of this lawsuit adverse to the Company or the other defendants could have a material effect on our consolidated financial position

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and results of operations in the period in which the lawsuit is resolved. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On June 30, 2017, a purported shareholder derivative complaint was filed in federal district court for the District of Delaware against certain of our present and former directors and the Company as a nominal defendant alleging breach of fiduciary duty, corporate waste, unjust enrichment and violation of Section 14(a) of the Securities Exchange Act of 1934 alleging that compensation awarded to the director defendants was excessive. We believe that the complaint is without merit and intend to defend against the litigation. There can be no assurance, however, that we will be successful. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On July 27, 2017, a purported shareholder derivative complaint was filed in federal district court for the District of Massachusetts against certain of our present and former directors and the Company as a nominal defendant alleging breach of fiduciary duty, unjust enrichment and violation of Section 14(a) of the Securities Exchange Act of 1934 alleging that compensation awarded to the director defendants was excessive and seeking redress for purported actions related to the Company’s January 2015 follow-on public offering. We believe that the complaint is without merit and intend to defend against the litigation. There can be no assurance, however, that we will be successful. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

We are not party to any other material litigation in any court and management is not aware of any contemplated proceeding by any governmental authority against the Company.

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

This Quarterly Report on Form 10-Q contains forward-looking statements that involve risks and uncertainties. The statements contained in this Quarterly Report on Form 10-Q that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Without limiting the foregoing, the words "may," "shall," "will," "should," "could," "expects," "plans," "intends," "anticipates," "believes," "estimates," "predicts," "potential," "continue," "target," "goal", "seek", "likely," "hope" a expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these words. All forward-looking statements included in this Quarterly Report on Form 10-Q are based on information available to us up to, and including, the date of this document, and we expressly disclaim any obligation to update any such forward-looking statements to reflect events or circumstances that arise after the date hereof. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain important factors, including those set forth in this Item 2 — "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as under the heading "Risk Factors" contained in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2016.

Overview

OvaScience, Inc. is a global fertility company developing proprietary potential treatments for female fertility based on scientific discoveries about the existence of egg precursor, or EggPC℠, cells. The current standard of treatment for infertility is in vitro fertilization, or IVF. IVF, however, has a 73% average failure rate per cycle based on a 2014 report from the Center for Disease Control and Prevention. A woman is born with a set number of eggs that die over time. EggPC cells have the ability to mature into new healthy eggs, thereby enabling new fertility treatment options. Our patented technology is based on these newly discovered EggPC cells and represents a new fertility treatment option.

EggPC cells are immature egg cells found in the protective outer lining of a woman's own ovaries. These immature egg cells have the ability to grow into fresh, young, healthy eggs. Our portfolio of fertility treatment options uses our patented technology including proprietary methods to identify and isolate EggPC cells from a patient's own ovarian tissue. By applying our EggPC technology platform in unique ways, we are developing new fertility treatment options that are designed to improve egg health and revolutionize the fertility treatment landscape.

More women around the world are waiting until later in life to start families and are in need of new fertility treatment options. As of 2016, approximately 9% of women of reproductive age (20-42 years) worldwide are estimated to be infertile, which corresponds to about 83 million women. Fertility decreases with age. The main cause of age related infertility is poor egg health, which is linked to a reduction in the number of functioning mitochondria. Unfortunately, many women cannot undergo IVF as they do not want or cannot have hormone treatment, or they make an insufficient number of eggs - or no eggs at all. The EggPC cell technology can potentially offer new options to those women.

The OvaTure℠ treatment is a potential next-generation fertility treatment that could help a woman produce healthy, young, fertilizable eggs without the need for hormone injections. The OvaTure treatment seeks to mature a woman's own EggPC cells into eggs outside her body. This potential treatment may be an option for women with compromised eggs, who are unable to make eggs, or who may be unwilling or unable to undergo hormone hyperstimulation. The OvaTure treatment may also offer a treatment option to patients who were not originally indicated for IVF.

In December 2013, we entered into a collaboration with Intrexon to accelerate development of OvaTure, which we refer to as the OvaTure Collaboration. The companies also formed OvaXon LLC, a joint venture, which has to date focused principally on the generation of low cost, elite heifer embryos for entry into the food chain. In 2016 and 2017, the OvaTure Collaboration generated data supporting the characterization and developmental competence of human EggPC cell derived-eggs, and the OvaXon joint venture generated data supporting the characterization and developmental competence of bovine EggPC cell derived-eggs.

Starting in August 2017, Intrexon will continue bovine EggPC work for us under the OvaTure Collaboration rather than under the OvaXon joint venture. Based on project plans provided by Intrexon, we continue to expect to meet the timeline for our goal to fertilize a bovine EggPC cell-derived egg by the end of 2017. We are in discussions with Intrexon regarding the future of the OvaXon JV.

Intrexon is continuing its work on the human EggPC cell OvaTure program under the OvaTure Collaboration, as before, and we believe that we are on track for our goals relating to human OvaTure.

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The OvaPrime℠ treatment is a potential fertility treatment that could enable a woman to increase her egg reserve. The OvaPrime treatment is designed to replenish a woman's egg reserve by transferring a patient's EggPC cells from the protective ovarian lining back into the patient's own ovaries where they may mature into fertilizable eggs during the IVF process. In 2016, we began an OvaPrime clinical trial in Canada in order to evaluate the safety of OvaPrime in patients with diminished ovarian response or primary ovarian insufficiency and secondarily, assess changes in women's hormonal and follicular development and occurrence of pregnancy. During the second quarter, we completed the target enrollment of 70 patents in the ongoing OvaPrime clinical trial. We expect to complete biopsies in 70 patients and to announce initial safety data from the first 20 patients by year-end.

The AUGMENT℠ treatment is specifically designed to improve egg health by supplementing a mitochondrial deficiency which may, in turn, offer the potential for enhanced IVF success rates. With the AUGMENT treatment, energy-producing mitochondria from a woman's own EggPC cells are added to the woman's mature eggs during the IVF process to supplement the existing mitochondria.

The AUGMENT treatment has been introduced in clinics outside of the United States. The AUGMENT treatment is not available in the United States. In September 2013, we received an "untitled" letter from the U.S. Food and Drug Administration, or FDA, advising us to file an investigational new drug application, or IND, for the AUGMENT treatment. Following the receipt of the letter, we chose to suspend the availability of the AUGMENT treatment in the United States. We met with the FDA in the second quarter of 2017 regarding the AUGMENT treatment, and will continue to work with the agency under its available procedures to determine the most appropriate regulatory pathway for potential entry into the U.S. market. We cannot provide any assurance, however, that the FDA will ultimately change the position take in the "untitled" letter.

In December 2016, we announced a change in corporate strategy in which we would slow the commercial expansion of the AUGMENT treatment and reduced our workforce by approximately 30%. In June 2017, we announced we will discontinue ongoing efforts related to the AUGMENT treatment outside of North America and continue to focus on advancing OvaTure and OvaPrime. To better align with our strategic position, we restructured the organization and reduced our workforce by approximately 50% (refer to footnote 9 for additional information on our June 2017 restructuring activities).

We believe our EggPC technology has the potential to make significant advances in the field of fertility because it is designed to address poor egg health and embryo quality due to age and other causes. We believe our EggPC technology could improve IVF by:

Increasing live birth rates and reducing the number of IVF cycles. By improving egg health, we believe we may increase the percentage of live births and reduce the number of IVF cycles required.

Reducing the incidence of multiple births. By generating higher quality eggs, we believe our EggPC technology may allow for the transfer of fewer embryos per IVF cycle and, as a result, lower the incidence of multiple births and the associated complications.

Lowering the overall cost of the IVF process. If we reduce the number of IVF cycles required for a live birth and the incidence of multiple births, we believe our fertility treatment options may also lower the overall costs associated with the IVF process.

Replenishing the ovary for women who make too few or no eggs. Our OvaPrime treatment is designed to replenish a woman's egg reserve by transferring a patient's EggPC cells from the protective ovarian lining back into the patient's own ovaries where they may mature into fertilizable eggs.

Reducing the need for hormonal hyperstimulation. We are designing our OvaTure treatment to mature EggPC cells into fertilizable eggs in vitro, or outside the body. If successful, the OvaTure treatment could reduce, or possibly eliminate, the need for hormonal hyperstimulation for the maturation of multiple oocytes prior to egg retrieval in the IVF process.

Developing new treatments for diseases. OvaXon is a joint venture with Intrexon, which is focused on developing significant improvements in human and animal health using our EggPC cell technology and Intrexon's synthetic biology and high throughput platform for applications.

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Critical Accounting Policies and Significant Judgments and Estimates

The discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of our condensed consolidated financial statements requires us to make judgments, estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. We evaluate our estimates, on an ongoing basis, including those related to accrued expenses and assumptions in the valuation of stock-based compensation. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable in the circumstances. Actual results could differ from those estimates.

Refer to Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of our Annual Report on Form 10-K for the year ended December 31, 2016 for a discussion of our critical accounting policies and estimates.

There were no significant changes to our critical accounting policies and estimates in the six months ended June 30, 2017.

Results of Operations

The following table summarizes our results of operations for the three and six months ended June 30, 2017 and 2016, together with the changes from period to period (in thousands of dollars except for percentages):

	Three Months Ended,		2017 / 2016 Comparison Increase / (Decrease)		Six Months Ended		2017 / 2016 Comparison Increase / (Decrease)	
	June 30,				June 30,			
	2017	2016	$	%	2017	2016	$	%
Revenues	$ 84	$ 189	$ (105)	(56)%	$ 147	$ 335	$ (188)	(56)%
Costs of revenues	274	1,233	(959)	(78)%	543	2,409	(1,866)	(77)%
Research and development expenses	4,997	5,987	(990)	(17)%	10,761	11,942	(1,181)	(10)%
Selling, general and administrative expenses	10,751	11,210	(459)	(4)%	17,880	25,664	(7,784)	(30)%
Restructuring	1,992	—	1,992	NM (1)	3,480	—	3,480	NM (1)
Interest income, net	186	161	25	16 %	368	335	33	10 %
Other income (expense), net	25	(22)	47	(214)%	(35)	(49)	14	(29)%
Loss from equity method investment	454	416	38	9 %	875	807	68	8 %
Income tax expense	13	50	(37)	(74)%	22	125	(103)	(82)%
Net Loss	$ 18,186	$ 18,568	$ (382)	(2)%	$ 33,081	$ 40,326	$ (7,245)	(18)%

(1) - Not Meaningful

Revenues

Revenues for the three and six months ended June 30, 2017 were $84,000, and $147,000, respectively as compared to $189,000 and $335,000 for the three and six months ended June 30, 2016, respectively. Based on our decision to slow our commercial expansion, as announced in December 2016, and to discontinue our ongoing efforts related to the AUGMENT treatment outside of North America, as announced in June 2017, we do not anticipate significant revenue in the near term.

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Cost of Revenues

Costs of revenues for the three and six months ended June 30, 2017 were $0.3 million and $0.5 million, respectively, compared to $1.2 million and $2.4 million, for the three and six months ended June 30, 2016, respectively. The decrease in cost of revenues for the three and six months ended June 30, 2017 is attributable to the decrease in the number of biopsies performed primarily as a result of our shift in corporate priorities related to the AUGMENT treatment resulting from our December 2016 and June 2017 restructuring activities and related pricing programs offered. Our costs of revenues include the cost of processing patient tissue that corresponds to treatment revenues for the reporting period.

Research and Development Expense

The $1.0 million, or 17%, decrease in our research and development expense for the three months ended June 30, 2017 as compared to the three months ended June 30, 2016, from $6.0 million to $5.0 million was primarily attributable to:

- a $0.5 million decrease in share-based compensation and $0.2 million decrease in travel related expenses, primarily attributable to our reduced headcount driven by our December 2016 restructuring initiatives; and
- a $0.6 million decrease in costs associated with our research agreements and certain study related agreements;
- offset by a $0.2 million increase in facilities and related costs.

The $1.2 million, or 10%, decrease in our research and development expense for the six months ended June 30, 2017 as compared to the six months ended June 30, 2016, from $11.9 million to $10.8 million was primarily attributable to:

- a $1.3 million decrease in share-based compensation and $0.3 million decrease in travel primarily attributable to executive level turnover and our reduced headcount driven by our December 2016 restructuring initiatives; and
- a $1.0 million decrease in costs associated with our research agreements;
- offset by a $1.0 million increase in costs related to the refocus from commercial expansion efforts to research and development efforts, including facilities related costs.

We expect research and development expense to increase if our programs successfully advance towards commercialization. We do not believe that our historical costs are indicative of the future costs associated with these programs nor do they represent what any other future treatment program we initiate may cost. Due to the variability in the length of time and scope of activities necessary to develop a fertility treatment and uncertainties related to cost estimates and our ability to commercialize and/or obtain marketing approval for our fertility treatments, accurate and meaningful estimates of the total costs required to bring our fertility treatments to market are not available. Additionally, because of the risks inherent in drug discovery and development, we cannot reasonably estimate or know:

- the nature, timing and estimated costs of the efforts necessary to complete the development of our programs;
- the anticipated completion dates of our programs; or
- the period in which material net cash in-flows are expected to commence, if at all, from our current programs and any potential future treatments.

Selling, General and Administrative Expense

The $0.5 million, or 4% decrease in selling, general and administrative expense for the three months ended June 30, 2017 as compared to the three months ended June 30, 2016, from $11.2 million to $10.8 million was primarily attributable to:

- a $1.6 million decrease in employee compensation due to our reduced headcount as a result of our December 2016 restructuring initiatives;
- a $1.4 million decrease in marketing and commercial related costs; and
- a $0.8 million decrease in travel, facilities and other costs primarily attributable to the decrease in our headcount as result of our December 2016 restructuring initiatives;
- a $2.9 million increase in share-based compensation, of which $2.7 million is attributable to the accelerated recognition of share-based compensation expense for awards granted to an executive.

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The $7.8 million, or 30%, decrease in selling, general and administrative expense for the six months ended June 30, 2017 as compared to the six months ended June 30, 2016, from $25.7 million to $17.9 million was primarily attributable to:

- a $3.6 million decrease in employee compensation and $1.1 million decrease in travel both primarily attributable to executive turnover and our reduced headcount driven by our December 2016 restructuring initiatives;
- a $2.6 million decrease in site related costs, specifically relating to the decrease in the number of preceptorship programs and facility and legal related costs;
- $1.7 million decrease in commercial and professional costs; and
- a $1.6 million decrease in brand development and marketing related costs primarily attributable to our shift in corporate strategy to focus on research and development activities;
- a $2.9 million increase in share-based compensation, and $2.7 million attributable to the accelerated recognition of share-based compensation expense for awards granted to an executive which was offset by reversals to share-based compensation for employees terminated as part of our December 2016 restructuring initiatives.

We expect selling, general and administrative expense to decrease as a result of the corporate restructuring announcements in December 2016 and June 2017. We do not believe that our historical costs are indicative of the future costs associated with supporting the AUGMENT treatment nor do they represent what any other future commercial treatment program we initiate may cost to support.

Restructuring Expense

Restructuring expenses were $2.0 million and $3.5 million for the three and six months ended June 30, 2017. For the three months ended June 30, 2017, we recognized restructuring charges of $2.0 million including $1.3 million of one-time termination benefits, $0.3 million of benefits under an ongoing benefit plan, $0.3 million of fixed asset impairment charges and $0.1 million of legal fees. For the six months ended June 30, 2017, we recognized restructuring charges of $3.5 million, including $2.4 million of one-time termination benefits, $0.3 million recorded of benefits under an ongoing benefit plan and $0.3 million of fixed asset impairment charges and $0.5 million of other restructuring related costs primarily consisting of legal fees.

No restructuring expenses were recorded for either the three or six months ended June 30, 2016.

Interest Income, Net

Interest income, net was $0.2 million for the three months ended June 30, 2017 and 2016, which for both periods was comprised of $0.2 million of interest income related to short-term investments.

Interest income, net was $0.4 million for the six months ended June 30, 2017 which included $0.4 million of interest income related to short-term investments. Interest income, net was $0.3 million for the six months ended June 30, 2016 which included $0.3 million of interest income related to short-term investments.

Loss from Equity Method Investment

Loss from equity method investment was $0.5 million and $0.9 million for the three and six months ended June 30, 2017, respectively. Loss from equity method investment was $0.4 million and $0.8 million for the three and six months ended June 30, 2016. These losses resulted from our OvaXon joint venture established in December 2013.

Income Tax Expense

Income tax expense was immaterial for three and six months ended June 30, 2017 and $0.1 million for both the three and six months ended June 30, 2016. Income tax expense primarily consists of taxes incurred in the state and foreign jurisdictions in which we operate.

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Liquidity and Capital Resources

Sources of Liquidity

We have generated limited AUGMENT treatment revenue to date and do not anticipate any revenues in the near-term. We have relied on the proceeds from sales of equity securities to fund our operations. Our short-term investments primarily trade in liquid markets, and the average days to maturity of our portfolio as of June 30, 2017 are less than 12 months. Because our fertility treatments are in various stages of development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of our fertility treatments, or whether or when we may achieve profitability.

Our significant capital resources are as follows (in thousands):

	June 30, 2017	December 31, 2016
Cash, cash equivalents and short-term investments	$86,559	$ 114,388
Working capital	77,275	103,235

	Six Months Ended June 30,	
	2017	2016
Cash (used in) provided by:		
Operating activities	$(27,275)	$(31,329)
Investing activities	6,282	29,939
Capital expenditures (included in investing activities above)	(101)	(868)
Financing activities	—	54,060

Cash Flows

Cash used in operating activities in both of the periods presented was primarily driven by our net loss. Cash flows from operations can vary significantly due to various factors, including changes in the net loss and the timing of disbursements made for accounts payable and accruals.

Cash provided by investing activities for the six months ended June 30, 2017 included purchases of $43.5 million of short-term investments and capital expenditures of $0.1 million, which were offset by $50.2 million of proceeds from maturities of short-term investments and a $0.4 million increase in restricted cash. Capital expenditures in the six months ended June 30, 2017 primarily consisted of laboratory equipment.

Cash provided by investing activities for the six months ended June 30, 2016 included purchases of $27.1 million of short-term investments, $0.8 million investment in our OvaXon joint venture and capital expenditures of $0.9 million, which were offset by $35.4 million of proceeds from maturities of short-term investments, $23.1 million in sales of short-term investments and a $0.2 million decrease in restricted cash. Capital expenditures in the six months ended June 30, 2016 primarily consisted of laboratory equipment.

Net cash provided by financing activity for the six months ended June 30, 2016 was primarily the result of an underwritten public offering of an aggregate of 8,222,500 shares of common stock at a price per share of $7.00 resulting in net proceeds of $53.9 million. Stock option exercises and issuances of common stock which resulted in net proceeds of $0.1 million.

We may need substantial additional funds to support our planned operations and commercialization strategy. We expect that our existing cash, cash equivalents and short-term investments of $86.6 million at June 30, 2017 will enable us to fund our current operating plan for at least the next 12 months. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development and commercialization of our fertility treatments, and the extent to which we may enter into collaborations with third parties for the development and commercialization of our fertility treatments, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the development of our current treatments in development. Our future capital requirements will depend on many factors, including:

- the clinical development of the OvaPrime treatment and its subsequent adoption by international IVF clinics;

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- the costs associated with preclinical development and subsequent clinical trials of the OvaTure treatment and other potential fertility treatments;
- the costs associated with a domestic and international sales, marketing, manufacturing and distribution infrastructure to commercialize any fertility treatments that we successfully develop, as well as costs associated with our December 2016 and June 2017 restructuring initiatives;
- the costs associated with the non-commercial preceptorship training program and clinical studies and trials;
- the costs of continuing the optimization of the OvaTure treatment and our success in defining a clinical pathway;
- the costs involved in collaborating with Intrexon through the OvaXon joint venture to create new applications to prevent inherited diseases for human and animal health;
- following any applicable regulatory process in the United States and abroad, including the premarketing and marketing approval requirements, to which any of our potential fertility treatments may be subject;
- following any regulatory or institutional review board review of our potential fertility treatments that are subject to such review;
- preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- establishing collaborations and partnerships on favorable terms, if at all; and
- developing, acquiring or in-licensing other potential fertility treatments and technologies.

Until such time, if ever, as we can generate sufficient revenues from our fertility treatments to become profitable, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of capital. In addition, we may elect to raise additional capital even before we need it if the conditions for raising capital are favorable. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of common stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or treatments or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our fertility treatment development or future commercialization efforts or grant rights to develop and market treatments that we would otherwise prefer to develop and market ourselves.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules.

Contractual Obligations

There have been no material changes to our contractual obligations set forth under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Contractual Obligations” in our Annual Report on Form 10-K for the year ended December 31, 2016.

Recently Issued Accounting Standards

In May 2017, the Financial Accounting Standards Board (FASB) issued ASU No. 2017-09, Compensation - Stock Compensation (Topic 718) - Scope of Modification Accounting. ASU 2017-09 clarifies the term modification and provides guidance on when to apply modification accounting, specifically when changes to the terms or conditions of a share-based payment occur. Entities should not account for the effects of a modification if all of the following are met: (1) there is no change in the fair value of the award, (2) there is no change in the vesting conditions, and (3) there is no change in classification of the award as liability or equity. This update is for entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years and requires prospective application. Early adoption is permitted for public entities for reporting periods for which financial statements have not yet been issued. We adopted ASU 2017-09 for the period ending June 30, 2017 and the adoption of ASU 2017-09 did not have a material impact on our financial statements and the footnotes thereto.

In November 2016, the FASB issued ASU No. 2016-18, Statement of Cash Flows (Topic 230) - Restricted Cash. ASU 2016-18 requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. This update is for entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years using a retrospective transition method to each period presented. Early adoption is permitted. We do not believe the adoption of ASU 2016-18 will have a material impact on our consolidated financial statements and footnote disclosures thereto.

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In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. ASU 2016-15 requires changes in the presentation of debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and distributions received from equity method investees. This update is effective for annual and interim periods beginning after December 15, 2017 using a retrospective transition method to each period presented. Early adoption is permitted. We do not believe the adoption of ASU 2016-15 will have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, Leases, which is intended to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Under the new standard, a lessee will be required to recognize assets and liabilities for both operating and financing leases with lease terms of more than 12 months. In addition, ASU 2016-02 requires the use of the modified retrospective method, which will require adjustment to all comparative periods presented in the consolidated financial statements. The amendment is effective for annual periods beginning after December 15, 2018, and interim periods within those annual periods. Early adoption is permitted. We are currently assessing the impact that adopting this new accounting standard will have on our consolidated financial statements and footnote disclosures thereto.

In August 2015, the FASB issued ASU No. 2015-14, which defers the effective date of ASU No. 2014-09 by one year. ASU 2014-09 amends the guidance for accounting for revenue from contracts with customers. ASU 2014-09 supersedes the revenue recognition requirements in Accounting Standards Codification Topic 605, Revenue Recognition, and creates a new Topic 606, Revenue from Contracts with Customers. This guidance is now effective for fiscal years beginning after December 15, 2017, with early adoption permitted for annual periods beginning after December 15, 2016. Two adoption methods are permitted: retrospectively to all prior reporting periods presented, with certain practical expedients permitted; or retrospectively with the cumulative effect of initially adopting ASU 2014-09 recognized at the date of initial application. We currently plan to adopt ASU 2015-14 as of January 1, 2018 using the modified retrospective approach and to apply the standard only to contracts that have not yet been completed as of the adoption date. Due to the limited revenues we have generated for the periods presented, we do not believe the adoption of ASU 2015-14 will have a material impact on our consolidated financial statements and footnotes disclosures thereto.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Our interest income is sensitive to changes in the general level of U.S. interest rates, particularly since a significant portion of our investments are in money market funds and corporate obligations. We do not enter into investments for trading or speculative purposes. We maintain our cash, cash equivalents and short-term investments with a high quality, accredited financial institution. Our marketable securities are subject to interest rate risk and will fall in value if market interest rates increase.

A hypothetical 100 basis point increase in interest rates would result in an approximately $0.2 million and $0.3 million decrease in the fair value of our investments as of June 30, 2017 and December 31, 2016, respectively. We have the ability to hold our fixed income investments until maturity and, therefore, we do not expect our operating results or cash flows to be affected to any significant degree by the effect of a change in market interest rates on our investments.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures. Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2017. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as

appropriate, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2017, our principal executive officer and principal financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

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Changes in Internal Controls. No change in our internal control over financial reporting occurred during the fiscal quarter ended June 30, 2017 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Part II. Other Information

Item 1. Legal Proceedings

On October 9, 2015, a purported class action lawsuit was filed in the Suffolk County Superior Court in the Commonwealth of Massachusetts against the Company, several of the Company's officers and directors and certain of the underwriters from the Company's January 2015 follow-on public offering of the Company's common stock. The plaintiffs purport to represent those persons who purchased shares of the Company's common stock pursuant or traceable to the Company's January 2015 follow-on public offering. The plaintiffs allege, among other things, that the Company made false and misleading statements and failed to disclose material information in the Company's January 2015 Registration Statement and incorporated offering materials. Plaintiffs allege violations of Sections 11, 12 and 15 of the Securities Act of 1933, as amended, and seek, among other relief, unspecified compensatory damages, rescission, pre-and post-judgment interest and fees, costs and disbursements. On December 7, 2015, the OvaScience, Inc. defendants filed a notice of removal with the Federal District Court for the District of Massachusetts. On December 30, 2015, plaintiffs filed a motion to remand the action to the Superior Court. Oral argument on the motion to remand was held on February 19, 2016. On February 23, 2016, the District Court granted plaintiffs' motion to remand the action to the Superior Court. On February 26, 2016, a second putative class action suit was filed in the Suffolk County Superior Court in the Commonwealth of Massachusetts against the Company, several of the Company's officers and directors and certain of the underwriters from the Company's January 2015 follow-on

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public offering of the Company's common stock. The complaint is substantially similar to the complaint filed in October 2015. The two actions subsequently were consolidated and plaintiffs filed a First Amended Class Action Complaint on June 17, 2016. Defendants filed motions to dismiss the complaint. Those motions were denied by order dated December 22, 2016. The parties currently are engaged in discovery and are briefing a class certification motion. The Company believes that the complaint is without merit and intends to defend against the litigation. There can be no assurance, however, that the Company will be successful. A resolution of this lawsuit adverse to the Company or the other defendants could have a material effect on the Company's consolidated financial position and results of operations in the period in which the lawsuit is resolved. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On November 9, 2016, a purported shareholder derivative action was filed against certain present and former officers and directors of the company alleging breaches of fiduciary duty, unjust enrichment, abuse of control, gross mismanagement and corporate waste for purported actions related to the Company's January 2015 follow-on public offering. On February 23, 2017, the court approved the parties' joint stipulation to stay all proceedings in the action until further notice. The Court has calendared a status conference for December 2017. The Company believes that the complaint is without merit and intends to defend against the litigation. There can be no assurance, however, that the Company will be successful. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On March 24, 2017, a purported shareholder class action lawsuit was filed in federal district court for the District of Massachusetts against the Company and certain of our present and former officers alleging violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934. On June 5, 2017, the Court appointed Freedman Family Investments, LLC as lead plaintiff, the firm of Robins Geller Rudman & Dowd LLP as lead counsel and the Law Office of Alan L. Kovacs as local counsel. Plaintiff is scheduled to file an amended complaint on august 21, 2017. We believe that the complaint is without merit and intend to defend against the litigation. There can be no assurance, however, that we will be successful. A resolution of this lawsuit adverse to the Company or the other defendants could have a material effect on our consolidated financial position and results of operations in the period in which the lawsuit is resolved. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On June 30, 2017, a purported shareholder derivative complaint was filed in federal district court for the District of Delaware against certain of our present and former directors and the Company as a nominal defendant alleging breach of fiduciary duty, corporate waste, unjust enrichment and violation of Section 14(a) of the Securities Exchange Act of 1934 alleging that compensation awarded to the director defendants was excessive. We believe that the complaint is without merit and intend to defend against the litigation. There can be no assurance, however, that we will be successful. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

On July 27, 2017, a purported shareholder derivative complaint was filed in federal district court for the District of Massachusetts against certain of our present and former directors and the Company as a nominal defendant alleging breach of fiduciary duty, unjust enrichment and violation of Section 14(a) of the Securities Exchange Act of 1934 alleging that compensation awarded to the director defendants was excessive and seeking redress for purported actions related to the Company's January 2015 follow-on public offering. We believe that the complaint is without merit and intend to defend against the litigation. There can be no assurance, however, that we will be successful. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

We are not party to any other material litigation in any court and management is not aware of any contemplated proceeding by any governmental authority against the Company.

Item 1A. Risk Factors

In addition to the other information set forth in this report, you should carefully consider the risk factors discussed in (i) Part I, Item 1A. "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2016. There have been no material changes in or additions to the risk factors included in our Annual Report on Form 10-K for the year ended December 31, 2016.

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

As previously reported, on June 21, 2017, the Company issued an option grant to Christopher Kroeger, the Company's Chief Executive Officer Elect, as a new hire inducement grant pursuant to NASDAQ Listing Rule 5635(c)(4) and Section 4(a)(2) of the Securities Act. The option grant is for the purchase of an aggregate of 1,783,106 shares of Common Stock at a price per share of $1.46 subject to his continued employment with the Company.

Item 5. Other Information.

None.

Item 6. Exhibits

The exhibits filed as part of this Quarterly Report on Form 10-Q are set forth in the Exhibit Index and such Exhibit Index is incorporated herein by reference.

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Signatures

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

OVASCIENCE, INC.

By: /s/ Michelle Dipp
Name: Michelle Dipp, M.D., Ph.D.
Date: August 3, 2017 Title: Executive Chair (Principal Executive Officer)

By: /s/ Jonathan Gillis
Name: Jonathan Gillis
Date: August 3, 2017 Title: VP, Finance (Principal Accounting and Financial Officer)

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Exhibit Index

Exhibit	Description
10.1	Employment Agreement by and between the Registrant and Christopher Kroeger, M.D., M.B.A., dated as of June 21, 2017.
10.2	Advisory Agreement by and between the Registrant and Michelle Dipp, M.D., dated as of June 21, 2017, as amended as of August 3, 2017.
10.3	Separation Agreement by and between the Registrant and Christophe Couturier, dated June 21, 2017.
10.4	Amended Employment Agreement by and between the Registrant and Jonathan Gillis, dated as of June 14, 2017.
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 by Principal Executive Officer.
31.2	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 by Principal Financial Officer.
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Principal Executive Officer.
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Principal Financial Officer.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Presentation Linkbase Document