

ARROWHEAD RESEARCH CORP  
Form 10-Q  
February 09, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-Q

(Mark One)

QUARTERLY REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the quarterly period ended December 31, 2015

TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
Commission file number 000-21898

ARROWHEAD RESEARCH CORPORATION

(Exact name of registrant as specified in its charter)

Delaware 46-0408024  
(State of incorporation) (I.R.S. Employer Identification No.)  
225 S. Lake Avenue, Suite 1050  
Pasadena, California 91101

(626) 304-3400

(Address and telephone number of 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

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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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated  Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

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

The number of shares of the registrant's common stock outstanding as of February 5, 2016 was 59,627,499.

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## PART I. FINANCIAL INFORMATION

## ITEM 1. FINANCIAL STATEMENTS

## Arrowhead Research Corporation

## Consolidated Balance Sheets

|  | (unaudited)          |                       |
|--|----------------------|-----------------------|
|  | December 31,<br>2015 | September 30,<br>2015 |
| <b>ASSETS</b>  |                      |                       |
| <b>CURRENT ASSETS</b>  |                      |                       |
| Cash and cash equivalents  | \$62,165,088         | \$81,214,354          |
| Prepaid expenses   | 3,783,344            | 3,293,285             |
| Other current assets   | 1,903,884            | 823,620               |
| Short term investments   | 14,431,498           | 17,539,902            |
| <b>TOTAL CURRENT ASSETS</b>  | <b>82,283,814</b>    | <b>102,871,161</b>    |
| Property and equipment, net  | 4,666,411            | 4,526,848             |
| Intangible assets, net   | 24,385,125           | 24,824,116            |
| Other assets   | 45,789               | 45,789                |
| <b>TOTAL ASSETS</b>  | <b>\$111,381,139</b> | <b>\$132,267,914</b>  |
| <b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>  |                      |                       |
| <b>CURRENT LIABILITIES</b>   |                      |                       |
| Accounts payable   | \$5,288,922          | \$5,031,706           |
| Accrued expenses   | 3,920,312            | 5,376,119             |
| Accrued payroll and benefits   | 1,419,423            | 3,824,062             |
| Deferred revenue   | 109,375              | 103,125               |
| Derivative liabilities   | 1,325,128            | 1,301,604             |
| Capital lease obligation   | 218,447              | 217,548               |
| Other current liabilities  | 46,407               | 46,407                |
| <b>TOTAL CURRENT LIABILITIES</b>   | <b>12,328,014</b>    | <b>15,900,571</b>     |
| <b>LONG-TERM LIABILITIES</b>   |                      |                       |
| Capital lease obligation, net of current portion   | 485,842              | 540,792               |
| Contingent consideration obligations   | 5,862,464            | 5,862,464             |
| Other non-current liabilities  | 336,427              | 342,453               |
| <b>TOTAL LONG-TERM LIABILITIES</b>   | <b>6,684,733</b>     | <b>6,745,709</b>      |
| <b>Commitments and contingencies</b>   |                      |                       |
| <b>STOCKHOLDERS' EQUITY</b>  |                      |                       |
| Arrowhead Research Corporation stockholders' equity:   |                      |                       |
| Preferred stock, \$0.001 par value; 5,000,000 shares authorized; 15,652 shares issued and        |                      |                       |
| outstanding as of December 31, 2015 and September 30, 2015                                       | 16                   | 16                    |
| Common stock, \$0.001 par value; 145,000,000 shares authorized; 59,627,499 and 59,544,677 shares |                      |                       |
| issued and outstanding as of December 31, 2015 and September 30, 2015, respectively              | 151,997              | 151,914               |
| Additional paid-in capital   | 428,838,629          | 426,873,358           |

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|   |                      |                      |
|---|----------------------|----------------------|
| Accumulated other comprehensive income (loss)             | (90,607 )            | (136,425 )           |
| Accumulated deficit                                       | (335,976,455)        | (316,712,041)        |
| Total Arrowhead Research Corporation stockholders' equity | 92,923,580           | 110,176,822          |
| Noncontrolling interest                                   | (555,188 )           | (555,188 )           |
| <b>TOTAL STOCKHOLDERS' EQUITY</b>                         | <b>92,368,392</b>    | <b>109,621,634</b>   |
| <b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>         | <b>\$111,381,139</b> | <b>\$132,267,914</b> |

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

## Arrowhead Research Corporation

## Consolidated Statements of Operations

(unaudited)

|   | Three<br>Months<br>ended<br>December<br>31, 2015 | Three<br>Months<br>ended<br>December<br>31, 2014 |
|---|--|--|
| REVENUE   | \$43,750   | \$170,750  |
| OPERATING EXPENSES                                      |  |  |
| Research and development                                | 10,338,833                                       | 17,744,312                                       |
| Salaries and payroll-related costs                      | 3,919,886  | 3,150,617  |
| General and administrative expenses                     | 1,951,609  | 2,086,202  |
| Stock-based compensation                                | 2,380,343  | 2,014,856  |
| Depreciation and amortization                           | 794,349  | 290,039  |
| TOTAL OPERATING EXPENSES                                | 19,385,020                                       | 25,286,026                                       |
| OPERATING LOSS  | (19,341,270)                                     | (25,115,276)                                     |
| OTHER INCOME (EXPENSE)                                  |  |  |
| Gain (loss) on sale of fixed assets, net                | -  | (26,381 )  |
| Interest income (expense), net                          | 100,380  | 237,417  |
| Change in value of derivatives                          | (23,524 )  | 2,382,142  |
| Other income (expense)                                  | -  | (53,184 )  |
| TOTAL OTHER INCOME (EXPENSE)                            | 76,856   | 2,539,994  |
| LOSS BEFORE INCOME TAXES                                | (19,264,414)                                     | (22,575,282)                                     |
| Provision for income taxes                              | -  | -  |
| NET LOSS  | (19,264,414)                                     | (22,575,282)                                     |
| Net loss attributable to non-controlling interests      | -  | -  |
| NET LOSS ATTRIBUTABLE TO ARROWHEAD                      | \$(19,264,414)                                   | \$(22,575,282)                                   |
| NET LOSS PER SHARE ATTRIBUTABLE TO ARROWHEAD            |  |  |
| SHAREHOLDERS - BASIC & DILUTED:                         | \$(0.32 )  | \$(0.41 )  |
| Weighted average shares outstanding - basic and diluted | 59,548,672                                       | 54,692,392                                       |
| OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX           |  |  |
| Foreign Currency Translation Adjustments                | 45,818   | -  |
| COMPREHENSIVE LOSS ATTRIBUTABLE TO                      |  |  |
| ARROWHEAD   | \$(19,218,596)                                   | \$(22,575,282)                                   |

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



## Arrowhead Research Corporation

## Consolidated Statement of Stockholders' Equity

(unaudited)

|   | Preferred Stock | Amount (\$) | Common Stock | Amount (\$) | Additional Paid-In Capital | Accumulated Other Comprehensive Income (loss) | Accumulated Deficit | Non-controlling Interest | Totals        |
|---|-----------------|-------------|--------------|-------------|----------------------------|---|---------------------|--------------------------|---------------|
| Balance at September 30, 2015                         | 15,652          | \$16        | 59,544,677   | \$151,914   | \$426,873,358              | \$(136,425)                                   | \$(316,712,041)     | \$(555,188)              | \$109,621,634 |
| Exercise of stock options                             | -               | -           | 4,687        | 5           | 25,539                     | -   | -                   | -                        | 25,544        |
| Stock-based compensation                              | -               | -           | -            | -           | 2,380,343                  | -   | -                   | -                        | 2,380,343     |
| Common stock-Restricted Stock Unit vesting            | -               | -           | 78,135       | 78          | (440,611)                  | -   | -                   | -                        | (440,533)     |
| Foreign currency translation adjustments              | -               | -           | -            | -           | -                          | 45,818  | -                   | -                        | 45,818        |
| Net loss for the three months ended December 31, 2015 | -               | -           | -            | -           | -                          | -   | (19,264,414)        | -                        | (19,264,414)  |
| Balance at December 31, 2015                          | 15,652          | \$16        | 59,627,499   | \$151,997   | \$428,838,629              | \$(90,607)                                    | \$(335,976,455)     | \$(555,188)              | \$92,368,392  |

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



## Arrowhead Research Corporation

## Consolidated Statements of Cash Flows

(unaudited)

|   | Three<br>months<br>ended<br>December<br>31, 2015 | Three months<br>ended<br>December 31,<br>2014 |
|---|--|---|
| <b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>                            |  |   |
| Net loss  | \$(19,264,414)                                   | \$(22,575,282 )                               |
| (Gain) loss on disposal of fixed assets                                 | -  | 26,381  |
| Change in value of derivatives  | 23,524   | (2,382,142 )                                  |
| Stock-based compensation  | 2,380,343  | 2,014,856                                     |
| Depreciation and amortization   | 794,349  | 290,039                                       |
| Amortization of note premiums   | 108,403  | 347,703                                       |
| Changes in operating assets and liabilities:                            |  |   |
| Receivables   | (1,054,719 )                                     | (136,506 )                                    |
| Prepaid expenses  | (490,057 )                                       | (3,874,051 )                                  |
| Accounts payable  | 257,216  | 3,415,473                                     |
| Accrued expenses  | (3,945,503 )                                     | (1,325,675 )                                  |
| Other   | 42,789   | (802 )  |
| <b>NET CASH USED IN OPERATING ACTIVITIES</b>                            | <b>(21,148,069)</b>                              | <b>(24,200,006 )</b>                          |
| <b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>                            |  |   |
| Purchases of property and equipment                                     | (406,612 )                                       | (554,945 )                                    |
| Proceeds from sale of fixed assets                                      | -  | 500   |
| Proceeds from sale of marketable securities                             | 3,000,000  | 3,054,774                                     |
| Cash paid for acquisitions  | -  | (7,000,000 )                                  |
| <b>NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES</b>              | <b>2,593,388</b>                                 | <b>(4,499,671 )</b>                           |
| <b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>                            |  |   |
| Principal payments on capital leases and notes payable                  | (54,051 )  | (103,168 )                                    |
| Payments of taxes for net share settled restricted stock unit issuances | (440,534 )                                       | -   |
| Proceeds from the exercise of warrants and stock options                | -  | 283,466                                       |
| <b>NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES</b>              | <b>(494,585 )</b>                                | <b>180,298</b>                                |
| <b>NET INCREASE (DECREASE) IN CASH</b>                                  | <b>(19,049,266)</b>                              | <b>(28,519,379 )</b>                          |
| <b>CASH AT BEGINNING OF PERIOD</b>                                      | <b>81,214,354</b>                                | <b>132,510,610</b>                            |
| <b>CASH AT END OF PERIOD</b>  | <b>\$62,165,088</b>                              | <b>\$103,991,231</b>                          |
| Supplementary disclosures:  |  |   |
| Interest paid   | \$3,054  | \$3,938                                       |

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



Arrowhead Research Corporation

Notes to Consolidated Financial Statements

(unaudited)

Unless otherwise noted, (1) the term “Arrowhead” refers to Arrowhead Research Corporation, a Delaware corporation, (2) the terms the “Company,” “we,” “us,” and “our,” refer to the ongoing business operations of Arrowhead and its Subsidiaries, whether conducted through Arrowhead or a subsidiary of Arrowhead, (3) the term “Subsidiaries” refers collectively to Arrowhead Madison Inc. (“Arrowhead Madison”), Arrowhead Australia Pty Ltd (“Arrowhead Australia”) and Ablaris Therapeutics, Inc. (“Ablaris”), (4) the term “Common Stock” refers to Arrowhead’s Common Stock, (5) the term “Preferred Stock” refers to Arrowhead’s Preferred Stock and the term “Stockholder(s)” refers to the holders of Arrowhead Common Stock.

NOTE 1. ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES

Nature of Business

Arrowhead Research develops novel drugs to treat intractable diseases by silencing the genes that cause them. Using the industry’s broadest portfolio of RNA chemistries and efficient modes of delivery, Arrowhead therapies trigger the RNA interference mechanism to induce rapid, deep and durable knockdown of target genes. RNA interference (RNAi) is a mechanism present in living cells that inhibits the expression of a specific gene, thereby affecting the production of a specific protein. Deemed to be one of the most important recent discoveries in life science with the potential to transform medicine, the discoverers of RNAi were awarded a Nobel Prize in 2006 for their work. Arrowhead’s RNAi-based therapeutics leverage this natural pathway of gene silencing to target and shut down specific disease causing genes.

Liquidity

Historically, the Company’s primary source of financing has been through the sale of its securities. Research and development activities have required significant capital investment since the Company’s inception. We expect our operations to continue to require cash investment to pursue our research and development goals, including clinical trials and related drug manufacturing. Based upon the Company’s current cash resources and operating plan, the Company expects to have sufficient liquidity to fund operations for at least the next twelve months.

At December 31, 2015, the Company had \$62.2 million in cash to fund operations. In addition to its cash resources, the Company has invested excess cash in investment grade commercial bonds maturing in less than 12 months. These bonds provide a source of liquidity, though the Company plans to hold them until maturity. At December 31, 2015, the Company had invested \$14.4 million in bonds. During the three months ended December 31, 2015, the Company’s cash position decreased by \$19.0 million which was primarily the result of cash outflows related to operating activities of \$21.1 million, partially offset by maturities of fixed income investments totaling \$3.0 million.

Summary of Significant Accounting Policies

Principles of Consolidation—The consolidated financial statements include the accounts of Arrowhead and its Subsidiaries. Arrowhead’s primary operating subsidiary is Arrowhead Madison, which is located in Madison, Wisconsin, where the Company’s research and development facilities are located. All significant intercompany accounts and transactions are eliminated in consolidation.

**Basis of Presentation and Use of Estimates**—The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. In the opinion of management, all adjustments, consisting of normal recurring accruals, considered necessary for a fair presentation have been included. Actual results could materially differ from those estimates. Additionally, certain reclassifications have been made to prior period financial statements to conform to the current period presentation.

**Cash and Cash Equivalents**—The Company considers all liquid debt instruments purchased with a maturity of three months or less to be cash equivalents. The Company had no restricted cash at December 31, 2015 and September 30, 2015.

**Concentration of Credit Risk**—The Company maintains several bank accounts for its operations at two financial institutions. These accounts are insured by the Federal Deposit Insurance Corporation (FDIC) for up to \$250,000 per institution. Management believes the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which these deposits are held.

Investments—The Company may invest excess cash balances in short-term and long-term marketable debt securities. Investments may consist of certificates of deposits, money market accounts, government-sponsored enterprise securities, corporate bonds and/or commercial paper. The Company accounts for its investment in marketable securities in accordance with FASB ASC 320, Investments – Debt and Equity Securities. This statement requires certain securities to be classified into three categories:

Held-to-maturity—Debt securities that the entity has the positive intent and ability to hold to maturity are reported at amortized cost.

Trading Securities—Debt and equity securities that are bought and held primarily for the purpose of selling in the near term are reported at fair value, with unrealized gains and losses included in earnings.

Available-for-Sale—Debt and equity securities not classified as either securities held-to-maturity or trading securities are reported at fair value with unrealized gains or losses excluded from earnings and reported as a separate component of shareholders' equity.

The Company classifies its investments in marketable debt securities based on the facts and circumstances present at the time of purchase of the securities. At December 31, 2015, the Company classified all of its investments as held-to-maturity.

Held-to-maturity investments are measured and recorded at amortized cost on the Company's Consolidated Balance Sheet. Discounts and premiums to par value of the debt securities are amortized to interest income/expense over the term of the security. No gains or losses on investment securities are realized until they are sold or a decline in fair value is determined to be other-than-temporary.

Property and Equipment—Property and equipment are recorded at cost, which may equal fair market value in the case of property and equipment acquired in conjunction with a business acquisition. Depreciation of property and equipment is recorded using the straight-line method over the respective useful lives of the assets ranging from three to seven years. Leasehold improvements are amortized over the lesser of the expected useful life or the remaining lease term. Long-lived assets, including property and equipment are reviewed for impairment whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable.

Intangible Assets Subject to Amortization—At December 31, 2015, intangible assets subject to amortization include certain patents and license agreements. Intangible assets subject to amortization are reviewed for impairment whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable.

In-Process Research & Development (IPR&D)—IPR&D assets represent capitalized on-going research projects that were acquired through business combinations. Such assets are initially measured at their acquisition date fair values. The amounts capitalized are being accounted for as indefinite-lived intangible assets, subject to impairment testing until completion or abandonment of R&D efforts associated with the project. Upon successful completion of a project, Arrowhead will make a determination as to the then remaining useful life of the intangible asset and begin amortization. Arrowhead tests its indefinite-lived assets for impairment at least annually, through a two-step process. The first step is a qualitative assessment to determine if it is more likely than not that the indefinite lived assets are impaired. Arrowhead considers relevant events and circumstances that could affect the inputs used to determine the fair value of the intangible assets. If the qualitative assessment indicates that it is more likely than not that the intangible assets are impaired, a second step is performed which is a quantitative test to determine the fair value of the intangible asset. If the carrying amount of the intangible assets exceeds its fair value, an impairment loss is recorded in the amount of that excess. If circumstances determine that it is appropriate, the Company may also elect to bypass step one, and proceed directly to the second step.



Contingent Consideration - The consideration for the Company's acquisitions often includes future payments that are contingent upon the occurrence of a particular event. For example, milestone payments might be based on the achievement of various regulatory approvals or future sales milestones, and royalty payments might be based on drug product sales levels. The Company records a contingent consideration obligation for such contingent payments at fair value on the acquisition date. The Company estimates the fair value of contingent consideration obligations through valuation models designed to estimate the probability of such contingent payments based on various assumptions and incorporating estimated success rates. Estimated payments are discounted using present value techniques to arrive at estimated fair value at the balance sheet date. Changes in the fair value of the contingent consideration obligations are recognized within the Company's Consolidated Statements of Operations and Comprehensive Loss. Changes in the fair value of the contingent consideration obligations can result from changes to one or multiple inputs, including adjustments to the discount rates, changes in the amount or timing of expected expenditures associated with product development, changes in the amount or timing of cash flows from products upon commercialization, changes in the assumed achievement or timing of any development milestones, changes in the probability of certain clinical events and changes in the assumed probability associated with regulatory approval. These fair value measurements are based on significant inputs not observable in the market. Substantial judgment is employed in determining the appropriateness of these assumptions as of the acquisition date and for each subsequent period. Accordingly, changes in assumptions could have a material impact on the amount of contingent consideration expense the Company records in any given period.

Revenue Recognition—Revenue from license fees are recorded when persuasive evidence of an arrangement exists, title has passed or services have been rendered, a price is fixed and determinable, and collection is reasonably assured. The Company may generate revenue from product sales, technology licenses, collaborative research and development arrangements, and research grants. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding and various milestone and future product royalty or profit-sharing payments.

Payments under collaborative research and development agreements are recognized as revenue ratably over the relevant periods specified in the agreement, generally the period during which research and development is conducted. Revenue from up-front license fees, milestones and product royalties are recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Payments received in advance of recognition as revenue are recorded as deferred revenue.

Allowance for Doubtful Accounts—The Company accrues an allowance for doubtful accounts based on estimates of uncollectible revenues by analyzing historical collections, accounts receivable aging and other factors. Accounts receivable are written off when all collection attempts have failed.

Research and Development—Costs and expenses that can be clearly identified as research and development are charged to expense as incurred in accordance with FASB ASC 730-10. Included in research and development costs are operating costs, facilities, supplies, external services, clinical trial and manufacturing costs, overhead directly related to the Company's research and development operations, and costs to acquire technology licenses.

Earnings (Loss) per Share—Basic earnings (loss) per share is computed using the weighted-average number of common shares outstanding during the period. Diluted earnings (loss) per share are computed using the weighted-average number of common shares and dilutive potential common shares outstanding during the period. Dilutive potential common shares primarily consist of stock options and restricted stock units issued to employees and warrants to purchase Common Stock of the Company. All outstanding stock options, restricted stock units and warrants for the three months ended December 31, 2015 and 2014 have been excluded from the calculation of Diluted earnings (loss) per share due to their anti-dilutive effect.

Stock-Based Compensation—The Company accounts for share-based compensation arrangements in accordance with FASB ASC 718, which requires the measurement and recognition of compensation expense for all share-based

payment awards to be based on estimated fair values. The Company uses the Black-Scholes option valuation model to estimate the fair value of its stock options at the date of grant. The Black-Scholes option valuation model requires the input of subjective assumptions to calculate the value of stock options. For restricted stock units, the value of the award is based on the Company's stock price at the grant date. For performance-based restricted stock unit awards, the value of the award is based on the Company's stock price at the grant date, with consideration given to the probability of the performance condition being achieved. The Company uses historical data and other information to estimate the expected price volatility for stock option awards and the expected forfeiture rate for all awards. Expense is recognized over the vesting period for all awards, and commences at the grant date for time-based awards and upon our determination that the achievement of such performance conditions is probable for performance-based awards. This determination requires significant judgment by management.

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Derivative Assets and Liabilities – The Company accounts for warrants and other derivative financial instruments as either equity or assets/liabilities based upon the characteristics and provisions of each instrument. Warrants classified as equity are recorded as additional paid-in capital on the Company’s Consolidated Balance Sheet. Some of the Company’s warrants were determined to be ineligible for equity classification because of provisions that may result in an adjustment to their exercise price. Warrants classified as derivative liabilities and other derivative financial instruments that require separate accounting as assets or liabilities are recorded on the Company’s Consolidated Balance Sheet at their fair value on the date of issuance and are revalued on each subsequent balance sheet date until such instruments are exercised or expire, with any changes in the fair value between reporting periods recorded as other income or expense. The Company estimates the fair value of these assets/liabilities using option pricing models that are based on the individual characteristics of the warrants or instruments on the valuation date, as well as assumptions for expected volatility, expected life and risk-free interest rate.

Income Taxes—The Company accounts for income taxes under the liability method, which requires the recognition of deferred income tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each period end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established, when necessary, to reduce deferred income tax assets to the amount expected to be realized. The provision for income taxes, if any, represents the tax payable for the period and the change in deferred income tax assets and liabilities during the period.

## NOTE 2. PROPERTY AND EQUIPMENT

The following table summarizes our major classes of property and equipment:

|   | December<br>31, 2015 | September<br>30, 2015 |
|---|----------------------|-----------------------|
| Computers, office equipment and furniture       | \$413,565            | \$404,964             |
| Research equipment                              | 6,783,831            | 6,354,584             |
| Software  | 110,428              | 110,428               |
| Leasehold improvements                          | 3,167,053            | 3,117,537             |
| Total gross fixed assets                        | 10,474,877           | 9,987,513             |
| Less: Accumulated depreciation and amortization | (5,808,466 )         | (5,460,665 )          |
| Property and equipment, net                     | \$4,666,411          | \$4,526,848           |

## NOTE 3. INVESTMENTS

The Company invests a portion of its excess cash balances in short-term and long-term debt securities. Investments at December 31, 2015 consisted of corporate bonds with maturities remaining of less than one year. The Company may also invest excess cash balances in certificates of deposit, money market accounts, U.S. Treasuries, U.S. government agency obligations, corporate debt securities, and/or commercial paper. The Company accounts for its investments in accordance with FASB ASC 320, Investments – Debt and Equity Securities. At December 31, 2015, all investments were classified as held-to-maturity securities.

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The following tables summarize the Company's short- and long-term investments as of December 31, 2015, and September 30, 2015.

|   | As of December 31, 2015 |                     |                      |                     |
|---|-------------------------|---------------------|----------------------|---------------------|
|   | Amortized<br>Cost       | Gross               | Gross                | Fair Value          |
|   |                         | Unrealized<br>Gains | Unrealized<br>Losses |                     |
| Commercial notes (due within one year)                  | \$14,431,498            | \$ —                | \$(159,605)          | \$14,271,893        |
| Commercial notes (due after one year through two years) | \$—                     | —                   | \$—                  | \$—                 |
| <b>Total</b>  | <b>\$14,431,498</b>     | <b>\$ —</b>         | <b>\$(159,605)</b>   | <b>\$14,271,893</b> |

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|   | As of September 30, 2015 |                        |                         |                     |
|---|--------------------------|------------------------|-------------------------|---------------------|
|   | Amortized Cost           | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value          |
| Commercial notes (due within one year)                  | \$17,539,902             | \$ —                   | \$(304,942)             | \$17,234,960        |
| Commercial notes (due after one year through two years) | \$—                      | —                      | \$—                     | \$—                 |
| <b>Total</b>  | <b>\$17,539,902</b>      | <b>\$ —</b>            | <b>\$(304,942)</b>      | <b>\$17,234,960</b> |

NOTE 4. INTANGIBLE ASSETS

Intangible assets consist of in-process research and development (“IPR&D”) not subject to amortization, and patents and license agreements subject to amortization, which were capitalized as a part of an asset acquisition or business combination.

IPR&D represents projects that have not yet received regulatory approval and are required to be classified as indefinite assets until the successful completion or the abandonment of the associated R&D efforts. Accordingly, during the development period after the date of acquisition, these assets will not be amortized until approval is obtained in one or more jurisdictions which, individually or combined, are expected to generate a significant portion of the total revenue expected to be earned by an IPR&D project. At that time, the Company will determine the useful life of the asset, reclassify the asset out of IPR&D and begin amortization. If the associated R&D effort is abandoned the related IPR&D assets will likely be written off and the Company would record an impairment loss. Intangible assets not subject to amortization include IPR&D capitalized as part of a business combination from the acquisition of the Roche RNAi business in 2011.

Intangible assets subject to amortization include patents and a license agreement capitalized as part of the Novartis RNAi asset acquisition in March 2015 and license agreements capitalized from the acquisition of the Roche RNAi business in 2011. The license agreement associated with the Novartis RNAi asset acquisition is being amortized over the estimated life remaining at the time of acquisition which was 21 years, and the accumulated amortization of the asset is approximately \$123,671. The license agreements associated with the acquisition of the Roche RNAi business were amortized over the estimated life remaining at the time of acquisition, which was 4 years, and the accumulated amortization of the assets is approximately \$230,000. These assets have been fully amortized as of December 31, 2015. The patents associated with the Novartis RNAi asset acquisition are being amortized over the estimated life remaining at the time of acquisition which was 14 years, and the accumulated amortization of the assets is approximately \$1,293,353. Amortization expense for the three months ended December 31, 2015 and 2014 was \$438,991 and \$13,664, respectively. Amortization expense is expected to be approximately \$1,275,322 for the remainder of fiscal year 2016, \$1,700,429 in 2017, \$1,700,429 in 2018, \$1,700,429 in 2019, \$1,700,429 in 2020, \$1,700,429 in 2021, and \$13,662,723 thereafter.

The following table provides details on the Company’s intangible asset balances:

|                               | Intangible assets not subject to amortization | Intangible assets subject to amortization | Total Intangible assets |
|-------------------------------|---|---|-------------------------|
| Balance at September 30, 2015 | \$ 944,935                                    | \$ 23,879,181                             | \$ 24,824,116           |
| Amortization                  | -   | (438,991)                                 | (438,991)               |
| Balance at December 31, 2015  | \$ 944,935                                    | \$ 23,440,190                             | \$ 24,385,125           |

NOTE 5. STOCKHOLDERS' EQUITY

At December 31, 2015, the Company had a total of 150,000,000 shares of capital stock authorized for issuance, consisting of 145,000,000 shares of Common Stock, par value \$0.001 per share, and 5,000,000 shares of Preferred Stock, par value \$0.001 per share.

At December 31, 2015, 59,627,499 shares of Common Stock were outstanding. Additionally, 15,652 shares of Series C Preferred Stock were outstanding, which are convertible into 2,670,990 shares of Common Stock. At December 31, 2015, 7,945,090 shares of Common Stock were reserved for issuance upon exercise of options and vesting of restricted stock units granted or available for grant under Arrowhead's 2004 Equity Incentive Plan and 2013 Incentive Plan, as well as for inducement grants made to new employees.

The Preferred Stock is convertible to Common Stock by its holder at its stated conversion price, though it is not convertible to the extent the holder would beneficially own more than 9.99% of the number of shares of outstanding Common Stock immediately after the conversion. The holders of Preferred Stock are eligible to vote with the Common Stock of the Company on an as-converted basis, but only to the extent they are eligible for conversion without exceeding the 9.99% ownership limitation. The Preferred Stock does not carry a coupon, but it is entitled to receive dividends on a pari passu basis with Common Stock, when and if declared. In any liquidation or dissolution of the Company, the holders of Preferred Stock are entitled to participate in the distribution of the assets, to the extent legally available for distribution, on a pari passu basis with the Common Stock.

The following table summarizes information about warrants outstanding at December 31, 2015:

| Exercise prices            | Number of Warrants | Remaining Life in Years |
|----------------------------|--------------------|-------------------------|
| \$ 70.60                   | 94,897             | 1.4                     |
| \$ 5.00                    | 364,375            | 0.5                     |
| \$ 5.09                    | 239,534            | 0.5                     |
| \$ 4.16                    | 1,000              | 1.0                     |
| \$ 3.25                    | 334,347            | 0.6                     |
| \$ 2.12                    | 75,000             | 2.0                     |
| \$ 1.83                    | 277,284            | 2.0                     |
| \$ 7.14                    | 80,000             | 2.5                     |
| Total warrants outstanding | 1,466,437          |                         |

#### NOTE 6. COMMITMENTS AND CONTINGENCIES

##### Leases

The Company leases approximately 8,500 square feet of office space for its corporate headquarters in Pasadena, California. The lease will expire in September 2019. Rental costs are approximately \$24,000 per month, increasing approximately 3% annually.

As of December 31, 2015, the Company's research facility in Madison, Wisconsin is leased through February 28, 2019. Monthly rental expense is approximately \$26,000. Other monthly rental expenses include common area maintenance and real estate taxes totaling approximately \$18,000 per month. Utilities costs are approximately \$16,000 per month. Total monthly costs are approximately \$79,000 per month, including monthly payments recorded under a capital lease of approximately \$19,000.

The Company leased additional research facility space in Middleton, Wisconsin, and this space is leased through May 2016. Monthly rental expense for the additional space is approximately \$4,000. Other monthly rental expenses include common area maintenance and real estate taxes totaling approximately \$2,000 per month.

Facility rent expense for the three months ended December 31, 2015 and 2014 was \$198,600 and \$171,500, respectively.

As of December 31, 2015, future minimum lease payments due in fiscal years under capitalized leases are as follows:

|                      |           |
|----------------------|-----------|
| 2016 (remainder of)  | \$171,315 |
| 2017                 | 228,420   |
| 2018                 | 228,420   |
| 2019                 | 95,175    |
| 2020                 | -         |
| 2021 and thereafter  | -         |
| Less interest        | (19,041 ) |
| Principal            | 704,289   |
| Less current portion | (218,447) |
| Noncurrent portion   | \$485,842 |

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As of December 31, 2015, future minimum lease payments due in fiscal years under operating leases are as follows:

|                     |             |
|---------------------|-------------|
| 2016 (remainder of) | \$470,846   |
| 2017                | 613,664     |
| 2018                | 637,897     |
| 2019                | 459,633     |
| 2020                | -           |
| 2021 and thereafter | -           |
| Total               | \$2,182,040 |

In January 2016, the Company entered into a new lease for a Madison, Wisconsin research facility. This lease will replace the Company's current research facility office leases. The increased capacity of this new facility compared to the current research facilities will accommodate increased research and development personnel for the Company's expanding pipeline of current and future drug candidates. See Footnote 9 – Subsequent Events for additional discussion of this new lease agreement.

### Litigation

The Company and certain of its officers and directors have been named as defendants in a consolidated class action pending before the United States District Court for the Central District of California regarding certain public statements in connection with the Company's hepatitis B drug research. The consolidated class action, initially filed as Wang v. Arrowhead Research Corp., et al., No. 2:14-cv-07890 (C.D. Cal., filed Oct. 10, 2014), and Eskinazi v. Arrowhead Research Corp., et al., No. 2:14-cv-07911 (C.D. Cal., filed Oct. 13, 2014), asserts claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and seeks damages in an unspecified amount. Additionally, three putative stockholder derivative actions captioned Weisman v. Anzalone et al., No. 2:14-cv-08982 (C.D. Cal., filed Nov. 20, 2014), Bernstein (Backus) v. Anzalone, et al., No. 2:14-cv-09247 (C.D. Cal., filed Dec. 2, 2014); and Johnson v. Anzalone, et al., No. 2:15-cv-00446 (C.D. Cal., filed Jan. 22, 2015), were filed in the United States District Court for the Central District of California, alleging breach of fiduciary duty by the Company's Board of Directors in connection with the facts underlying the securities claims. An additional consolidated derivative action asserting similar claims is pending in Los Angeles County Superior Court, initially filed as Bacchus v. Anzalone, et al., (L.A. Super., filed Mar. 5, 2015); and Jackson v. Anzalone, et al. (L.A. Super., filed Mar. 16, 2015). Each of these suits seeks damages in unspecified amounts and some seek various forms of injunctive relief.

The Company and two of its former executives have been named as defendants in a complaint filed on November 11, 2014 and captioned William Marsh Rice University vs. Unidym, Inc. and Arrowhead Research Corporation, No. 2014-66088, currently pending in the United States District Court for the Southern District of Texas relating to alleged breaches of a license agreement between Rice University and the Company's former subsidiary, Unidym, Inc. The plaintiff has alleged that the Company and its former executives acted fraudulently with respect to Unidym's license from Rice University and seeks injunctive relief, damages, including unspecified compensatory and punitive damages, and attorneys' fees.

The Company believes it has meritorious defenses and intends to vigorously defend itself in each of the above matters. The Company makes provisions for liabilities when it is both probable that a liability has been incurred and the amount can be reasonably estimated. No such liability has been recorded related to these matters. The Company does not expect these matters to have any material effect on its Consolidated Financial Statements. With regard to legal fees, such as attorney fees related to these matters or any other legal matters, the Company's accounting policy is to recognize such costs as incurred.

### Purchase Commitments

In the normal course of business, we enter into various purchase commitments for the manufacture of drug components, toxicology studies, and for clinical studies. As of December 31, 2015, these future commitments were approximately \$47.5 million, of which approximately \$25.2 million is expected to be incurred in the remainder of fiscal 2016, and \$23.3 million is expected to be incurred beyond fiscal 2016.



## Technology License Commitments

The Company has licensed from third parties the rights to use certain technologies that it uses in its research and development activities, as well as in any products the Company may develop using these licensed technologies. These agreements and other similar agreements often require milestone and royalty payments. Milestone payments, for example, may be required as the research and development process progresses through various stages of development, such as when clinical candidates enter or progress through clinical trials, upon NDA and upon certain sales level milestones. These milestone payments could amount to the mid to upper double digit millions of dollars. In certain agreements, the Company may be required to make mid to high single digit percentage royalty payments based on a percentage of the sales of the relevant products.

## NOTE 7. STOCK-BASED COMPENSATION

Arrowhead has two plans that provide for equity-based compensation. Under the 2004 Equity Incentive Plan and 2013 Incentive Plan, as of December 31, 2015, 2,537,018 and 5,084,284 shares, respectively, of Arrowhead's Common Stock are reserved for the grant of stock options, stock appreciation rights, restricted stock awards and performance unit/share award to employees, consultants and others. No further grants may be made under the 2004 Equity Incentive Plan. As of December 31, 2015, there were options granted and outstanding to purchase 2,537,018 and 2,384,144 shares of Common Stock under the 2004 Equity Incentive Plan and the 2013 Incentive Plan, respectively, and there were 877,500 restricted stock units granted and outstanding under the 2013 Incentive Plan. Also, as of December 31, 2015, there were 544,622 shares reserved for options and 46,667 restricted stock units issued as inducement grants to new employees outside of equity compensation plans. During the three months ended December 31, 2015, no options or restricted stock units were granted under the 2004 Equity Incentive Plan, 82,000 options and 0 restricted stock units were granted under the 2013 Incentive Plan, and no options and restricted stock units were granted as inducement awards to new employees outside of equity incentive plans.

The following tables summarize information about stock options:

|                                  | Number of<br>Options<br>Outstanding | Weighted-<br>Average<br>Exercise<br>Price<br>Per Share | Weighted-<br>Average<br>Remaining<br>Contractual<br>Term | Aggregate<br>Intrinsic<br>Value |
|----------------------------------|-------------------------------------|--|--|---------------------------------|
| Balance At September 30, 2015    | 5,435,640                           | 6.71   |  |                                 |
| Granted                          | 82,000                              | 5.96   |  |                                 |
| Cancelled                        | (47,169)                            | 8.56   |  |                                 |
| Exercised                        | (4,687)                             | 5.45   |  |                                 |
| Balance At December 31, 2015     | 5,465,784                           | \$ 6.69  | 7.6 years  | \$6,925,846                     |
| Exercisable At December 31, 2015 | 2,956,400                           | \$ 6.12  | 6.8 years  | \$4,766,553                     |

Stock-based compensation expense related to stock options for the three months ended December 31, 2015 and 2014 was \$1,217,217 and \$981,399, respectively. The Company does not recognize an income tax benefit as the Company is currently operating at a loss and an actual income tax benefit may not be realized. For non-qualified stock options, the loss creates a timing difference, resulting in a deferred tax asset, which is fully reserved by a valuation allowance.

The grant date fair value of the options granted by Arrowhead for the three months ended December 31, 2015 and 2014 is estimated at \$365,876 and \$3,596,618, respectively.

The intrinsic value of the options exercised during the three months ended December 31, 2015 and 2014 was \$3,515 and \$23,774, respectively.

As of December 31, 2015, the pre-tax compensation expense for all outstanding unvested stock options in the amount of approximately \$10,850,029 will be recognized in the Company's results of operations over a weighted average period of 2.5 years.

The fair value of each stock option award is estimated on the date of grant using the Black-Scholes option pricing model. The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options, which do not have vesting restrictions and are fully transferable. The determination of the fair value of each stock option is affected by our stock price on the date of grant, as well as assumptions regarding a number of highly complex and subjective variables. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

The assumptions used to value stock options are as follows:

|   | Three months ended December 31, |              |
|---|---------------------------------|--------------|
|   | 2015                            | 2014         |
| Dividend yield  | —                               | —            |
| Risk-free interest rate   | 1.47 – 1.81%                    | 1.61 – 1.85% |
| Volatility  | 89%                             | 75%          |
| Expected life (in years)  | 6.25                            | 6.25         |
| Weighted average grant date fair value per share of options granted | \$4.46                          | \$3.66       |

The dividend yield is zero as the Company currently does not pay a dividend.

The risk-free interest rate is based on that of the U.S. Treasury bond.

Volatility is estimated based on volatility average of the Company's Common Stock price.

#### Restricted Stock Units

Restricted stock units (RSUs), including time-based and performance-based awards, were granted under the Company's 2013 Incentive Plan and as inducement grants granted outside of the Plan. During the three months ended December 31, 2015 and 2014, the Company issued 0 restricted stock units and 30,000 restricted stock units, respectively, to certain members of management. Of the restricted stock units granted during the three months ended December 31, 2014, 30,000 were granted outside of the Plan as an inducement grant to a new employee. At vesting, each RSU will be exchanged for one share of the Company's Common Stock. Restricted stock unit awards generally vest subject to the satisfaction of service requirements or the satisfaction of both service requirements and achievement of certain performance targets.

The following table summarizes the activity of the Company's Restricted Stock Units:

|                                | Number of RSUs | Weighted-Average Grant Date Fair Value |
|--------------------------------|----------------|--|
| Unvested at September 30, 2015 | 934,167        | \$ 9.18                                |
| Granted                        | —              | —                                      |
| Vested                         | (10,000 )      | 5.22                                   |
| Forfeited                      | —              | —                                      |
| Unvested at December 31, 2015  | 924,167        | \$ 9.22                                |

The Company recorded \$1,163,126 and \$1,033,457 of expense relating to restricted stock units during the three months ended December 31, 2015 and 2014, respectively. Such expense is included in stock-based compensation expense in the Company's Consolidated Statement of Operations and Comprehensive Loss.

For restricted stock units, the grant date fair value of the award is based on the Company's closing stock price at the grant date, with consideration given to the probability of achieving performance conditions for performance based awards.

As of December 31, 2015, the pre-tax compensation expense for all unvested restricted stock units in the amount of approximately \$2,529,700 will be recognized in the Company's results of operations over a weighted average period of 1.7 years.

#### NOTE 8. FAIR VALUE MEASUREMENTS

The Company measures its financial assets and liabilities at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., exit price) in an orderly transaction between market participants at the measurement date. Additionally, the Company is required to provide disclosure and categorize assets and liabilities measured at fair value into one of three different levels depending on the assumptions (i.e., inputs) used in the valuation. Level 1 provides the most reliable measure of fair value while Level 3 generally requires significant management judgment. Financial assets and liabilities are classified in their entirety based on the lowest level of input significant to the fair value measurement. The fair value hierarchy is defined as follows:

Level 1—Valuations are based on unadjusted quoted prices in active markets for identical assets or liabilities.

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Level 2—Valuations are based on quoted prices for similar assets or liabilities in active markets, or quoted prices in markets that are not active for which significant inputs are observable, either directly or indirectly.

Level 3—Valuations are based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. Inputs reflect management’s best estimate of what market participants would use in valuing the asset or liability at the measurement date.

The following table summarizes fair value measurements at December 31, 2015 and September 30, 2015 for assets and liabilities measured at fair value on a recurring basis:

December 31, 2015:

|  | Level 1      | Level 2 | Level 3     | Total        |
|--|--------------|---------|-------------|--------------|
| Cash and cash equivalents                                | \$62,165,088 | \$ —    | \$ —        | \$62,165,088 |
| Derivative liabilities                                   | \$ —         | \$ —    | \$1,325,128 | \$1,325,128  |
| Acquisition-related contingent consideration obligations | \$ —         | \$ —    | \$5,862,464 | \$5,862,464  |

September 30, 2015:

|  | Level 1      | Level 2 | Level 3     | Total        |
|--|--------------|---------|-------------|--------------|
| Cash and cash equivalents                                | \$81,214,354 | \$ —    | \$ —        | \$81,214,354 |
| Derivative liabilities                                   | \$ —         | \$ —    | \$1,301,604 | \$1,301,604  |
| Acquisition-related contingent consideration obligations | \$ —         | \$ —    | \$5,862,464 | \$5,862,464  |

The Company invests its excess cash balances in short- and long-term corporate bonds, generally with remaining maturities of less than one year. At December 31, 2015, the Company had short-term investments of \$14,431,498. The fair value of its investment at December 31, 2015 was \$14,271,893. The Company expects to hold such investments until maturity, and thus unrealized gains and losses from the fluctuations in the fair value of the securities are not likely to be realized.

As part of a financing in December 2012, Arrowhead issued warrants to purchase up to 912,543 shares of Common Stock (the “2012 Warrants”) of which 265,161 warrants were outstanding at December 31, 2015. Further, as part of a financing in January 2013, Arrowhead issued warrants to purchase up to 833,530 shares of Common Stock (the “2013 Warrants”) and, together with the 2012 Warrants, the “Warrants”) of which 12,123 Warrants were outstanding at December 31, 2015. Each of the Warrants contains a mechanism to adjust the strike price upon the issuance of certain dilutive equity securities. If during the terms of the Warrants, the Company issues Common Stock at a price lower than the exercise price for the Warrants, the exercise price would be reduced to the amount equal to the issuance price of the Common Stock. As a result of these features, the Warrants are subject to derivative accounting as prescribed under ASC 815. Accordingly, the fair value of the Warrants on the date of issuance was estimated using an option pricing model and recorded on the Company’s Consolidated Balance Sheet as a derivative liability. The fair value of the Warrants is estimated at the end of each reporting period and the change in the fair value of the Warrants is recorded as a non-operating gain or loss as change in value of derivatives in the Company’s Consolidated Statement of Operations and Comprehensive Loss. During the three months ended December 31, 2015 and 2014, the Company recorded a non-cash gain/(loss) from the change in fair value of the derivative liability of \$(21,574) and \$2,179,651, respectively. Additionally, As part of an equity financing in June 2010, Arrowhead issued warrants to purchase up to 329,649 shares of Common Stock (the “2010 Warrants”), and the remaining unexercised 24,324 of these warrants expired during the three months ended December 31, 2015.



The assumptions used in valuing the derivative liability were as follows:

|                         |                   |                    |
|-------------------------|-------------------|--------------------|
| 2012 Warrants           | December 31, 2015 | September 30, 2015 |
| Risk-free interest rate | 1.06%             | 0.6%               |
| Expected life           | 2.0 Years         | 2.2 Years          |
| Dividend yield          | —                 | —                  |
| Volatility              | 89%               | 75%                |
| 2013 Warrants           | December 31, 2015 | September 30, 2015 |
| Risk-free interest rate | 1.06%             | 0.6%               |
| Expected life           | 2.1 Years         | 2.3 Years          |
| Dividend yield          | —                 | —                  |
| Volatility              | 89%               | 75%                |

The following is a reconciliation of the derivative liability related to these warrants:

|                             |              |
|-----------------------------|--------------|
| Value at September 30, 2015 | \$ 1,272,802 |
| Issuance of instruments     | —            |
| Change in value             | 21,574       |
| Net settlements             | —            |
| Value at December 31, 2015  | \$ 1,294,376 |

In conjunction with the financing of Ablaris in fiscal 2011, Arrowhead sold exchange rights to certain investors whereby the investors have the right to exchange their shares of Ablaris for a prescribed number of Arrowhead shares of Common Stock based upon a predefined ratio. The exchange rights have a seven-year term. During the first year, the exchange right allows the holder to exchange one Ablaris share for 0.06 Arrowhead shares. This ratio declines to 0.04 in the second year, 0.03 in the third year and 0.02 in the fourth year. In the fifth year and beyond the exchange ratio is 0.01. Exchange rights for 675,000 Ablaris shares were sold in fiscal 2011, and 500,000 remain outstanding at December 31, 2015. The exchange rights are subject to derivative accounting as prescribed under ASC 815. Accordingly, the fair value of the exchange rights on the date of issuance was estimated using an option pricing model and recorded on the Company's Consolidated Balance Sheet as a derivative liability. The fair value of the exchange rights is estimated at the end of each reporting period and the change in the fair value of the exchange rights is recorded as a non-operating gain or loss in the Company's Consolidated Statement of Operations and Comprehensive Loss. During the three months ended December 31, 2015 and 2014, the Company recorded a non-cash gain/(loss) from the change in fair value of the derivative liability of \$(1,950) and \$202,491, respectively.

The assumptions used in valuing the derivative liability were as follows:

|                         |                   |                    |
|-------------------------|-------------------|--------------------|
|                         | December 31, 2015 | September 30, 2015 |
| Risk-free interest rate | 1.00%             | 1.00%              |
| Expected life           | 2.2 Years         | 2.5 Years          |
| Dividend yield          | —                 | —                  |
| Volatility              | 89%               | 75%                |

The following is a reconciliation of the derivative liability related to these exchange rights:

|                             |          |
|-----------------------------|----------|
| Value at September 30, 2015 | \$28,802 |
| Issuance of instruments     | —        |
| Change in value             | 1,950    |
| Net settlements             | —        |
| Value at December 31, 2015  | \$30,752 |

The derivative assets/liabilities are estimated using option pricing models that are based on the individual characteristics of the warrants or instruments on the valuation date, as well as assumptions for expected volatility, expected life and risk-free interest rate. Changes in the assumptions used could have a material impact on the resulting fair value. The primary input affecting the value of our derivatives liabilities is the Company's stock price. Other inputs have a comparatively insignificant effect.



As of December 31, 2015, the Company has liabilities for contingent consideration related to its acquisition of the Roche RNAi business completed in 2011. The fair value measurement of the contingent consideration obligations is determined using Level 3 inputs. The fair value of contingent consideration obligations is based on a discounted cash flow model using a probability-weighted income approach. The measurement is based upon unobservable inputs supported by little or no market activity based on the Company's assumptions and experience. Estimating timing to complete the development and obtain approval of products is difficult, and there are inherent uncertainties in developing a product candidate, such as obtaining U.S. Food and Drug Administration (FDA) and other regulatory approvals. In determining the probability of regulatory approval and commercial success, the Company utilizes data regarding similar milestone events from several sources, including industry studies and its own experience. These fair value measurements represent Level 3 measurements as they are based on significant inputs not observable in the market. Significant judgment is employed in determining the appropriateness of these assumptions as of the acquisition date and for each subsequent period. Accordingly, changes in assumptions could have a material impact on the amount of contingent consideration expense the Company records in any given period. Changes in the fair value of the contingent consideration obligations are recorded in the Company's Consolidated Statement of Operations and Comprehensive Loss.

The following is a reconciliation of contingent consideration fair value.

|  |             |
|--|-------------|
| Value at September 30, 2015                      | \$5,862,464 |
| Purchase price contingent consideration          | —           |
| Contingent consideration payments                | —           |
| Change in fair value of contingent consideration | —           |
| Value at December 31, 2015                       | \$5,862,464 |

The fair value of contingent consideration obligations is estimated through valuation models designed to estimate the probability of such contingent payments based on various assumptions and incorporating estimated success rates. Estimated payments are discounted using present value techniques to arrive at estimated fair value at the balance sheet date. Changes in the fair value of the contingent consideration obligations can result from changes to one or multiple inputs, including adjustments to the discount rates, changes in the amount or timing of expected expenditures associated with product development, changes in the amount or timing of cash flows from products upon commercialization, changes in the assumed achievement or timing of any development milestones, changes in the probability of certain clinical events and changes in the assumed probability associated with regulatory approval. Each of these assumptions can have a significant impact on the calculation of contingent consideration.

The carrying amounts of the Company's other financial instruments, which include accounts receivable, accounts payable, and accrued expenses approximate their respective fair values due to the relatively short-term nature of these instruments. The carrying value of the Company's other long-term liabilities approximates fair value based on market interest rates.

#### NOTE 9. SUBSEQUENT EVENTS

On January 8, 2016, the Company entered into a new lease for a Madison, Wisconsin research facility. The 10-year office building lease between the Company's subsidiary, Arrowhead Madison Inc. and University Research Park, Incorporated is for approximately 60,000 square feet of office and laboratory space located at 502 South Rosa Road, Madison, Wisconsin, and this lease will replace the Company's current research facility lease also with University Research Park, Incorporated for property located at 465 Science Drive, Madison Wisconsin. The increased capacity

of this new facility compared to the Company's current research facilities will accommodate increased research and development personnel for the Company's expanding pipeline of current and future drug candidates.

The initial term of the lease commenced on January 1, 2016 with expected occupancy in late 2016, after certain leasehold improvements have been completed. The lease payments, which begin on October 1, 2016, will be approximately \$15.4 million over the initial 10-year term. We also estimate payments for the Company's pro rata share of certain real estate taxes, operating expenses and common area maintenance expenses to be approximately \$0.9 million for the first year of the lease, and these payments will continue throughout the initial 10-year term. The Company expects to pay approximately \$7.3 million for leasehold improvements, net of tenant improvement allowances. Pursuant to the lease, within six months of the expiration of the initial 10-year term, the Company has the option to extend the lease for up to two additional five-year terms, with certain annual increases in base rent.

Additionally, on January 8, 2016 and in conjunction with signing the new lease agreement as discussed above, the Company entered into an amendment to the Company's current research facility lease for property located at 465 Science Drive Suite C, Madison, Wisconsin with University Research Park, Incorporated that provides for an early termination of such lease effective on October 31, 2016.

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

This Quarterly Report on Form 10-Q contains certain 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, and we intend that such forward-looking statements be subject to the safe harbors created thereby. For this purpose, any statements contained in this Quarterly Report on Form 10-Q except for historical information may be deemed to be forward-looking statements. Without limiting the generality of the foregoing, words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "estimate," or "continue" or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. In addition, any statements that refer to projections of our future financial performance, trends in our businesses, or other characterizations of future events or circumstances are forward-looking statements.

The forward-looking statements included herein are based on current expectations of our management based on available information and involve a number of risks and uncertainties, all of which are difficult or impossible to predict accurately and many of which are beyond our control. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Readers should carefully review the factors identified in this report under the caption "Risk Factors" as well as the additional risks described in other documents we file from time to time with the Securities and Exchange Commission ("SEC"), including our most recent Annual Report on Form 10-K and subsequent quarterly reports on Form 10-Q. In light of the significant risks and uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by us or any other person that such results will be achieved, and readers are cautioned not to place undue reliance on such forward-looking information. Except as may be required by law, we disclaim any intent to revise the forward-looking statements contained herein to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

### Overview

Arrowhead Research develops novel drugs to treat intractable diseases by silencing the genes that cause them. Using the industry's broadest portfolio of RNA chemistries and efficient modes of delivery, Arrowhead therapies trigger the RNA interference mechanism to induce rapid, deep and durable knockdown of target genes. RNA interference (RNAi) is a mechanism present in living cells that inhibits the expression of a specific gene, thereby affecting the production of a specific protein. Deemed to be one of the most important recent discoveries in life science with the potential to transform medicine, the discoverers of RNAi were awarded a Nobel Prize in 2006 for their work. Arrowhead's RNAi-based therapeutics leverage this natural pathway of gene silencing to target and shut down specific disease causing genes.

Arrowhead operates lab facilities in Madison and Middleton, Wisconsin, where the Company's research and development activities, including the development of RNAi therapeutics, are based. The Company's principal executive offices are located in Pasadena, California.

During the first quarter of fiscal year 2016, the Company continued to develop its lead clinical candidate, ARC-520, for the treatment of chronic hepatitis B as well as its second clinical candidate, ARC-AAT, an RNAi therapeutic designed to treat liver disease associated with Alpha-1 antitrypsin deficiency (AATD). The Company continued its Phase 2 studies in ARC-520, with no dose-limiting toxicities or serious adverse events having been observed to date. In connection with its Phase 2a study, the Company reported data showing that ARC-520 effectively reduced HBV viral antigens derived from cccDNA. The data showed that HBV surface antigen (HBsAg) was reduced substantially with a maximum reduction of 1.9 logs (99%) and a mean maximum reduction of 1.5 logs (96.8%) in treatment naïve e-antigen (HBeAg)-positive patients. The Company also discussed data from an ARC-520 chimpanzee study showing that in chronically HBV-infected chimpanzees treated with ARC-520 in combination with nucleoside analogs, 7 of 9 (78%) exhibited signs of immune reactivation, which is likely a necessary step for achieving a functional cure of chronic HBV. The Company believes these data strongly support advancement of

ARC-520 into Phase 2b and future clinical studies. In January 2016, the Company announced that it had dosed the first patient in its Phase 2b combination study for ARC-520 and is continuing to enroll patients at multiple centers in Australia and New Zealand. The Company submitted an Investigational New Drug application to the FDA which was approved in April 2015 and the Company also received regulatory clearance in Germany for two additional Phase 2b multiple-dose studies of ARC-520 to be conducted in parallel. The Company expects to file with additional Asian and European agencies to begin additional Phase 2b studies.

Regarding ARC-AAT, the Company recently completed protocol-required dosing of healthy volunteers in an on-going Phase 1 study and initiated dosing of patients in Part B of that same study. The study recently received regulatory clearance in the United Kingdom, Germany and New Zealand, and is currently recruiting patients at several sites in those countries. In January 2016, the European Medicines Agency (EMA) granted orphan drug designation to ARC-AAT, consistent with the previous designation granted by the FDA.

The Company also continues to progress on its expanded pipeline of additional pre-clinical candidates including ARC-F12, a treatment for factor 12 (F12) mediated angioedemic and thromboembolic diseases, ARC-HIF2, a treatment for clear cell renal cell

carcinoma (ccRCC), ARC-521, a complementary candidate to ARC-520 for the treatment of chronic hepatitis B infection, and ARC-LPA, a treatment designed to reduce production of Lp(a), which has been genetically linked with increased risk of cardiovascular disease.

The Company continues to develop other clinical candidates for future clinical trials, including intravenously-administered therapeutics targeting gene knockdown in the liver, as well as formulations for administering RNAi-based therapeutics by subcutaneous administration. Clinical candidates are tested internally and through GLP toxicology studies at outside laboratories, and drug materials for such studies, and for clinical trials, are contracted to third-party manufacturers when cGMP production is required. The Company engages third-party contract research organizations (CROs) to manage clinical trials and works cooperatively with such organizations on all aspects of clinical trial management, including plan design, patient recruiting, and follow up. These outside costs, relating to the preparation for and administration of clinical trials, are referred to as program costs, and if the clinical candidates progress through human testing, program costs will increase.

In January 2016, the Company entered into a new lease for a Madison, Wisconsin research facility. The 10-year office building lease between the Company's subsidiary, Arrowhead Madison Inc. and University Research Park, Incorporated is for approximately 60,000 square feet of office and laboratory space located at 502 South Rosa Road, Madison, Wisconsin, and this lease will replace the Company's current research facility office lease, also with University Research Park, Incorporated, for property located at 465 Science Drive, Madison Wisconsin. The increased capacity of this new facility compared to the Company's current research facilities will accommodate increased research and development personnel for the Company's expanding pipeline of current and future drug candidates

Net losses were \$19.3 million, and \$22.6 million during the three months ended December 31, 2015 and 2014, respectively. Diluted losses per share were \$0.32, and \$0.41 during the three months ended December 31, 2015 and 2014, respectively.

The Company strengthened its liquidity and financial position through two securities offerings completed in October 2013 and February 2014 which generated approximately \$172.6 million of cash proceeds for the Company. These cash proceeds secured the funding needed to advance both ARC-520 and ARC-AAT into clinical trials and also assist as the Company expands its pipeline of other clinical candidates. The Company had \$62.2 million of cash and cash equivalents, \$14.4 million of short term investments and \$111.4 million of total assets as of December 31, 2015 as compared to \$81.2 million, \$17.5 million and \$132.3 million as of September 30, 2015, respectively. The operating expenses and net losses and decrease in cash and cash equivalents and total assets reflects expenditures associated with the Company's research and development efforts for its clinical candidates and pipeline. Based upon the Company's current cash resources and operating plan, the Company expects to have sufficient liquidity to fund operations for at least the next twelve months.

#### Critical Accounting Policies and Estimates

Management makes certain judgments and uses certain estimates and assumptions when applying GAAP in the preparation of our Consolidated Financial Statements. We evaluate our estimates and judgments on an ongoing basis and base our estimates on historical experience and on assumptions that we believe to be reasonable under the circumstances. Our experience and assumptions form the basis for our judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may vary from what we anticipate and different assumptions or estimates about the future could change our reported results. We believe the following accounting policies are the most critical to us, in that they require our most difficult, subjective or complex judgments

in the preparation of our consolidated financial statements. For further information, see Note 1, Organization and Significant Accounting Policies, to our Consolidated Financial Statements, which outlines our application of significant accounting policies.

#### Revenue Recognition

Revenue from product sales is recorded when persuasive evidence of an arrangement exists, title has passed and delivery has occurred, a price is fixed and determinable, and collection is reasonably assured.

We may generate revenue from technology licenses, collaborative research and development arrangements, research grants and product sales. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, and various milestone and future product royalty or profit-sharing payments.

Revenue associated with research and development funding payments under collaborative agreements is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from up-front license fees, milestones and product royalties are recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Payments received in advance of recognition as revenue are recorded as deferred revenue.

### Impairment of Long-lived Assets

We review long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of assets may not be fully recoverable or that our assumptions about the useful lives of these assets are no longer appropriate. If impairment is indicated, recoverability is measured by a comparison of the carrying amount of an asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset.

### Impairment of Intangible assets

Intangible assets consist of in-process research and development, license agreements and patents acquired in conjunction with a business or asset acquisition. Intangible assets are monitored for potential impairment whenever events or circumstances indicate that the carrying amount may not be recoverable, and are also reviewed annually to determine whether any impairment is necessary. Based on ASU 2012-02, the annual review of intangible assets is performed via a two-step process. First, a qualitative assessment is performed to determine if it is more likely than not that the intangible asset is impaired. If required, a quantitative assessment is performed and, if necessary, impairment is recorded.

### Stock-Based Compensation

We account for share-based compensation arrangements in accordance with FASB ASC 718, which requires the measurement and recognition of compensation expense for all share-based payment awards to be based on estimated fair values. We use the Black-Scholes option valuation model to estimate the fair value of our stock options at the date of grant. The Black-Scholes option valuation model requires the input of subjective assumptions to calculate the value of stock options. For restricted stock units, the value of the award is based on the Company's stock price at the grant date. For performance-based restricted stock unit awards, the value of the award is based on the Company's stock price at the grant date, with consideration given to the probability of the performance condition being achieved. We use historical data and other information to estimate the expected price volatility for stock option awards and the expected forfeiture rate for all awards. Expense is recognized over the vesting period for all awards, and commences at the grant date for time-based awards and upon our determination that the achievement of such performance conditions is probable for performance-based awards. This determination requires significant judgment by management.

### Derivative Assets and Liabilities

We account for warrants and other derivative financial instruments as either equity or assets/liabilities based upon the characteristics and provisions of each instrument. Warrants classified as equity are recorded as additional paid-in capital on our Consolidated Balance Sheet and no further adjustments to their valuation are made. Some of our warrants were determined to be ineligible for equity classification because of provisions that may result in an adjustment to their exercise price. Warrants classified as derivative liabilities and other derivative financial instruments that require separate accounting as assets or liabilities are recorded on our Consolidated Balance Sheet at their fair value on the date of issuance and are revalued on each subsequent balance sheet date until such instruments are exercised or expire, with any changes in the fair value between reporting periods recorded as other income or expense. We estimate the fair value of these assets/liabilities using option pricing models that are based on the individual characteristics of the warrants or instruments on the valuation date, as well as assumptions for expected volatility, expected life and risk-free interest rate. Changes in the assumptions used could have a material impact on the resulting fair value. The primary input affecting the value of our derivatives liabilities is the Company's stock price.

### Contingent Consideration

The consideration for our acquisitions often includes future payments that are contingent upon the occurrence of a particular event. For example, milestone payments might be based on progress of clinical development, the achievement of various regulatory approvals or future sales milestones, and royalty payments might be based on drug product sales levels. The Company records a contingent consideration obligation for such contingent payments at fair value on the acquisition date. The Company estimates the fair value of contingent consideration obligations through valuation models designed to estimate the probability of the occurrence of such contingent payments based on various assumptions and incorporating estimated success rates. Estimated payments are discounted using present value techniques to arrive at estimated fair value at the balance sheet date. Changes in the fair value of our contingent consideration obligations are recognized within our Consolidated Statements of Operations. Changes in the fair value of the contingent consideration obligations can result from changes to one or multiple inputs, including adjustments to the discount rates, changes in the amount or timing of expected expenditures associated with product development, changes in the amount or timing of cash flows from products upon commercialization, changes in the assumed achievement or timing of any development milestones, changes in the probability of certain clinical events and changes in the assumed probability associated with regulatory approval. These fair value measurements are based on significant inputs not observable in the market. Substantial judgment is employed in determining the



appropriateness of these assumptions as of the acquisition date and for each subsequent period. Accordingly, changes in assumptions could have a material impact on the amount of contingent consideration expense the Company records in any given period.

## Results of Operations

The following data summarize our results of operations for the following periods indicated:

|  | Three Months<br>Ended<br>December 31,<br>2015 | Three Months<br>Ended<br>December 31,<br>2014 |
|--|---|---|
| Revenue                                | \$43,750                                      | \$170,750                                     |
| Operating Loss                         | (19,341,270)                                  | (25,115,276)                                  |
| Net Loss                               | (19,264,414)                                  | (22,575,282)                                  |
| Earnings per Share (Basic and Diluted) | \$(0.32)                                      | \$(0.41)                                      |

The decrease in our Operating Expenses during the three months ended December 31, 2015, is primarily due to reduced expenses associated with the drug manufacturing campaign to support our Phase 2b studies for ARC-520, our lead clinical candidate for HBV. The manufacturing campaign for this clinical trial for ARC-520 is largely complete, however, as other clinical candidates are nominated, and as other clinical trials advance, further expenditures will be incurred.

## Revenue

Total revenue was \$43,750 and \$170,750 for the three months ended December 31, 2015 and 2014, respectively. Revenue is primarily related to licensed technology in both periods. In addition, the Company had collaboration revenue of \$80,000 and earned \$47,000 in revenue for delivering a materials study during the three months ended December 31, 2014.

## Operating Expenses

The analysis below details the operating expenses and discusses the expenditures of the Company within the major expense categories. Certain reclassifications have been made to prior period operating expense categories to conform to the current period presentation. For purposes of comparison, the amounts for the three months ended December 31, 2015 and 2014 are shown in the tables below.

### Research and Development Expenses – Three months ended December 31, 2015 compared to the three months ended December 31, 2014

R&D expenses are related to the Company's on-going research and development efforts, primarily related to program costs, composed primarily of outsourced costs related to the manufacturing of clinical supplies, toxicity/efficacy studies and clinical trial expenses. Internal costs primarily relate to operations at our research facility in Madison, Wisconsin, including facility costs and laboratory-related expenses. The following table provides details of research and development expense for the periods indicated:

(in thousands, except percentages)

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|                                  | Three<br>Months<br>Ended<br>December<br>31, 2015 | % of<br>Expense<br>Category |   | Three<br>Months<br>Ended<br>December<br>31, 2014 | % of<br>Expense<br>Category |   | Increase<br>(Decrease)<br>\$ | %   |
|----------------------------------|--|-----------------------------|---|--|-----------------------------|---|------------------------------|-----|
| Laboratory supplies & services   | \$ 602   | 6                           | % | \$ 493   | 3                           | % | \$ 109                       | 22  |
| In vivo studies                  | 289  | 3                           | % | 60   | 0                           | % | 229                          | 382 |
| Outside labs & contract services | 65   | 1                           | % | 126  | 1                           | % | (61 )                        | -48 |
| Toxicity/efficacy studies        | 3,099  | 30                          | % | 2,068  | 12                          | % | 1,031                        | 50  |
| Drug manufacturing               | 3,100  | 30                          | % | 9,599  | 54                          | % | (6,499)                      | -68 |
| Clinical trials                  | 2,835  | 27                          | % | 5,064  | 29                          | % | (2,229)                      | -44 |
| License, royalty & milestones    | 21   | 0                           | % | 23   | 0                           | % | (2 )                         | -9  |
| Facilities and related           | 281  | 3                           | % | 206  | 1                           | % | 75                           | 36  |
| Other research expenses          | 47   | 0                           | % | 105  | 0                           | % | (58 )                        | -55 |
| Total                            | \$ 10,339  | 100                         | % | \$ 17,744  | 100                         | % | \$(7,405)                    | -42 |

Laboratory supplies and services expense increased by \$109,000 from \$493,000 during the three months ended December 31, 2014 to \$602,000 during the current period. The Company has expanded its laboratory facility and increased its R&D headcount. The increase in laboratory supplies and services is a result of the purchase of additional supplies necessary to support increased efforts in pre-clinical research as the Company supports ongoing clinical efforts and accelerates efforts to identify new clinical candidates.

In vivo studies expense increased by \$229,000 from \$60,000 during the three months ended December 31, 2014 to \$289,000 during the current period. In vivo expense can vary depending on the stage of preclinical candidates, the nature and amount of testing required and based on the varying costs of different in vivo testing models. The Company has expanded its candidate pipeline which has resulted in additional studies conducted.

Outside labs and contract services expense decreased by \$61,000 from \$126,000 during the three months ended December 31, 2014 to \$65,000 during the current period. The decrease in the current period primarily relates to reduced contracted labor services that have been converted into R&D headcount.

Toxicity/efficacy studies expense increased by \$1,031,000 from \$2,068,000 during the three months ended December 31, 2014 to \$3,099,000 during the current period. This category includes IND-enabling toxicology studies as well as post-IND toxicology studies, such as long-term toxicology studies, and other efficacy studies. The increase primarily relates to toxicology studies related to one of our recent drug candidates, ARC-521, to support later clinical trials. These amounts can vary quarter to quarter based on stage of development.

Drug manufacturing expense decreased by \$6,499,000 from \$9,599,000 during the three months ended December 31, 2014 to \$3,100,000 during the current period. The decrease is primarily due to reduced expenses associated with the drug manufacturing campaign to support our Phase 2b studies for ARC-520, our lead clinical candidate for HBV. The manufacturing campaign for this clinical trial for ARC-520 is largely complete, however, as other clinical candidates are nominated, and as other clinical trials advance, further expenditures will be incurred.

Clinical trials expense decreased by \$2,229,000 from \$5,064,000 during the three months ended December 31, 2014 to \$2,835,000 during the current period. The decrease is primarily driven by the timing of costs incurred in preparation for our anticipated Phase 2b clinical trial for ARC-520. The Phase 2b trials are currently enrolling and we expect clinical trial expenses to increase further as enrollment in our clinical trials increases. We are also incurring costs related to our clinical trial for our second clinical candidate ARC-AAT.

License, royalty and milestones expense was consistent at \$21,000 and \$23,000 during the three months ended December 31, 2015 and 2014, respectively. This category can include milestone payments which can vary from period to period depending on the nature of our various license agreements, and the timing of reaching various development milestones requiring payment.

Facilities expense increased by \$75,000 from \$206,000 during the three months ended December 31, 2014 to \$281,000 during the current period. The increase relates to rent for our additional facility in Middleton, Wisconsin and increased repairs and maintenance costs on our lab equipment.

Other research expense decreased by \$58,000 from \$105,000 during the three months ended December 31, 2014 to \$47,000 during the current period. The decrease primarily relates to costs associated with a collaboration agreement to identify muscle targeting peptide molecules in the three months ended December 31, 2014, for which the Company has been reimbursed from its collaboration partner.

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Salaries – Three months ended December 31, 2015 compared to the three months ended December 31, 2014

The Company employs scientific, technical and administrative staff at its corporate offices and its research facility. Salaries and payroll-related expense consists of salary, bonuses, payroll taxes and related benefits. Salary and payroll-related expenses include two major categories: general and administrative (G&A) compensation expense, and research and development (R&D) compensation expense, based on the primary activities of each employee. The following table provides detail of salary and payroll-related expenses for the periods indicated:

(in thousands, except percentages)

|                            | Three<br>Months<br>ended      | % of                | Three<br>Months<br>ended      | % of                | Increase<br>(Decrease) |      |
|----------------------------|-------------------------------|---------------------|-------------------------------|---------------------|------------------------|------|
|                            | Ended<br>December<br>31, 2015 | Expense<br>Category | Ended<br>December<br>31, 2014 | Expense<br>Category | \$                     | %    |
| R&D - compensation-related | \$ 2,946                      | 75 %                | \$ 2,366                      | 75 %                | \$ 580                 | 25 % |
| G&A - compensation-related | 974                           | 25 %                | 785                           | 25 %                | 189                    | 24 % |
| Total                      | \$ 3,920                      | 100 %               | \$ 3,151                      | 100 %               | \$ 769                 | 24 % |

R&D compensation expense increased by \$580,000 from \$2,366,000 during the three months ended December 31, 2014 to \$2,946,000 during the current period. An increase in personnel accounted for the majority of the change in compensation-related expense.

G&A compensation expense increased by \$189,000 from \$785,000 during the three months ended December 31, 2014 to \$974,000 during the current period. Higher headcount and annual merit increases accounted for the majority of the change in the current period.

General & Administrative Expenses – Three months ended December 31, 2015 compared to the three months ended December 31, 2014

The following table provides details of our general and administrative expenses for the periods indicated:

(in thousands, except percentages)

|                               | Three<br>Months<br>Ended<br>December<br>31, 2015 | % of<br>Expense<br>Category | Three<br>Months<br>Ended<br>December<br>31, 2014 | % of<br>Expense<br>Category | Increase<br>(Decrease) |       |
|-------------------------------|--|-----------------------------|--|-----------------------------|------------------------|-------|
|                               | \$   | %                           | \$   | %                           | \$                     | %     |
| Professional/outside services | \$ 850   | 44 %                        | \$ 1,253   | 60 %                        | \$ (403)               | -32 % |
| Patent expense                | 281  | 14 %                        | 177  | 9 %                         | 104                    | 59 %  |
| Facilities and related        | 76   | 4 %                         | 76   | 4 %                         | -                      | 0 %   |
| Travel                        | 250  | 13 %                        | 186  | 9 %                         | 64                     | 34 %  |
| Business insurance            | 138  | 7 %                         | 106  | 5 %                         | 32                     | 30 %  |

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|                              |          |     |   |          |     |   |         |      |
|------------------------------|----------|-----|---|----------|-----|---|---------|------|
| Communication and Technology | 149      | 8   | % | 154      | 7   | % | (5 )    | -3 % |
| Office expenses              | 94       | 5   | % | 79       | 4   | % | 15      | 19 % |
| Other                        | 113      | 5   | % | 55       | 2   | % | 58      | 105% |
| Total                        | \$ 1,951 | 100 | % | \$ 2,086 | 100 | % | \$(135) | -6 % |

Professional/outside services include legal, accounting, consulting and other outside services retained by the Company. All periods include normally recurring legal and audit expenses related to SEC compliance and other corporate matters. Professional/outside services expense decreased by \$403,000 from \$1,253,000 during the three months ended December 31, 2014 to \$850,000 during the current period. The decrease primarily related to recruiting fees to fill several management positions in 2014 and higher legal fees in 2014 related to recent litigation events as discussed in Footnote 6 – Commitments and Contingencies.

Patent expense increased by \$104,000 from \$177,000 during the three months ended December 31, 2014 to \$281,000 during the current period. Patent expense increased due to additional prosecution requirements associated with new patents acquired through the Novartis RNAi asset acquisition. The Company continues to invest in patent protection for its DPC™ technology, related product candidates and other RNAi technology through patent filings in multiple countries. The Company expects to extend and maintain protection for its current portfolios, as appropriate, and file new patent applications as technologies are developed and improved. Expenses can vary from period to period as patents proceed through their prosecution life cycle.

Facilities-related expense remained consistent at \$76,000 in each period. Facilities expense relates to recurring expenses associated with our corporate headquarters in Pasadena.

Travel expense increased by \$64,000 from \$186,000 during the three months ended December 31, 2014 to \$250,000 during the current period. Travel expense increased due to travel in support of our R&D function, including our GMP manufacturing campaigns and our clinical trials.

Business insurance expense increased by \$32,000 from \$106,000 during the three months ended December 31, 2014 to \$138,000 during the current period. Business insurance costs increased primarily due to increases in corporate liability insurance and added coverage related to the Company's clinical trials.

Communication and technology expense was fairly consistent at \$149,000 for the three months ended December 31, 2015 and \$154,000 for the three months ended December 31, 2014. This category includes costs associated with the Company's IT infrastructure.

Office expense increased by \$15,000 from \$79,000 during the three months ended December 31, 2014 to \$94,000 during the current period. These expenses relate to conferences/training, office supplies, miscellaneous administrative expenses, and expenses related to office expansions at our R&D facility in Madison and our corporate headquarters in Pasadena.

Other expense increased by \$58,000 from \$55,000 during the three months ended December 31, 2014 to \$113,000 during the current period. This category consists primarily of conference attendance fees, franchise and property tax expenses and marketing expenses. The primary increase in other expense primarily related to the conference attendance fees recorded during the current quarter.

#### Stock-based compensation expense

Stock-based compensation expense, a noncash expense, was \$2,380,343 and \$2,014,856 during the three months ended December 31, 2015 and 2014, respectively. Stock-based compensation expense is based upon the valuation of stock options and restricted stock units granted to employees, directors, and certain consultants. Many variables affect the amount expensed, including the Company's stock price on the date of the grant, as well as other assumptions. Due to additional options and restricted stock units granted to new and existing employees, compensation expense has increased from the prior year.

#### Depreciation and amortization expense

Depreciation and amortization expense, a noncash expense, was \$794,349 and \$290,039 during the three months ended December 31, 2015 and 2014, respectively. The majority of depreciation and amortization expense relates to depreciation on lab equipment at our Madison research facility. In addition, the Company records depreciation on leasehold improvements at its Madison research facility and its Pasadena corporate headquarters. The increase in depreciation and amortization expense is primarily due to the amortization of the intangible assets acquired in the Novartis RNAi asset acquisition.

Other income / expense

Other income / expense was income of \$76,856 and \$2,539,994 during the three months ended December 31, 2015 and 2014, respectively. The primary component of other income during the three months ended December 31, 2014 was a change in the value of derivative liabilities related to certain warrants with a price adjustment feature, necessitating derivative accounting. The fluctuations were primarily driven by changes in the Company's stock price, which had a corresponding impact to the valuation of the underlying warrants.

Liquidity and Cash Resources

Arrowhead has historically financed its operations through the sale of its securities. Research and development activities have required significant capital investment since the Company's inception, and are expected to continue to require significant cash investment.

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At December 31, 2015, the Company had cash on hand of approximately \$62.2 million as compared to \$81.2 million at September 30, 2015. Excess cash invested in fixed income securities was \$14.4 million at December 31, 2015, compared to \$17.5 million at September 30, 2015. The Company believes its current financial resources are sufficient to fund its operations through at least the next twelve months.

A summary of cash flows for the three months ended December 31, 2015 and 2014 is as follows:

|  | Three Months<br>Ended December<br>31, 2015 | Three Months<br>Ended December<br>31, 2014 |
|--|--|--|
| <b>Cash Flow from Continuing Operations:</b> |  |  |
| Operating Activities                         | \$ (21,148,069 )                           | \$ (24,200,006 )                           |
| Investing Activities                         | 2,593,388                                  | (4,499,671 )                               |
| Financing Activities                         | (495,585 )                                 | 180,298                                    |
| Net Increase (Decrease) in Cash              | (19,049,266 )                              | (28,519,379 )                              |
| Cash at Beginning of Period                  | 81,214,354                                 | 132,510,610                                |
| Cash at End of Period                        | \$ 62,165,088                              | \$ 103,991,231                             |

During the three months ended December 31, 2015, the Company used \$21.1 million in cash from operating activities, which represents the on-going expenses of its research and development programs and corporate overhead. Cash provided by investing activities was \$2.6 million, primarily related to maturities on fixed income securities of \$3.0 million, partially offset by capital expenditures of \$0.4 million. Cash used by financing activities of \$0.5 million was driven by cash paid for employee taxes on net share settlements of restricted stock units that vested during the period.

During the three months ended December 31, 2014, the Company used \$24.2 million in cash from operating activities, which represents the on-going expenses of its research and development programs and corporate overhead. Cash used by investing activities was \$4.5 million, primarily related to cash paid for acquisitions of \$7.0 million and capital expenditures of \$0.6 million, partially offset by maturities on fixed income securities of \$3.1 million. Cash provided by financing activities of \$0.2 million was driven by cash received from the exercise of warrants and stock options.

#### Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements or relationships.

#### ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There has been no material change in our exposure to market risk from that described in Item 7A of our Annual Report on Form 10-K for the year ended September 30, 2015, filed with the Securities and Exchange Commission on December 14, 2015.

#### ITEM 4. CONTROLS AND PROCEDURES

Our Chief Executive Officer and our Chief Financial Officer, after evaluating our “disclosure controls and procedures” (as defined in Rules 13a-15(e) and 15d-15(e)) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) as of the end of the period covered by this Quarterly Report on Form 10-Q (the “Evaluation Date”), have concluded that, as of the Evaluation Date, our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and to ensure that information required to be disclosed by us in such reports is accumulated and communicated to our management, including our Chief Executive



Officer and Chief Financial Officer where appropriate, to allow timely decisions regarding required disclosure.

No change in the Company's internal controls over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) of the Exchange Act) occurred during the Company's most recent fiscal quarter 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

From time to time, we may be involved in routine legal proceedings, as well as demands, claims and threatened litigation, which arise in the normal course of our business. We believe there is no litigation pending that, individually or in the aggregate, will have a material adverse effect on our results of operations or financial condition. The information contained in Note 6 to the Consolidated Financial Statements under the heading “Litigation” in Part I, Item 1 is incorporated herein by reference.

ITEM 1A. Risk Factors

There have been no material changes to the risk factors included in our Annual Report on Form 10-K for the year ended September 30, 2015. Please carefully consider the information set forth in this Quarterly Report on Form 10-Q and the risk factors discussed in Part I, “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the year ended September 30, 2015, which could materially affect our business, financial condition or future results. The risks described in our Annual Report on Form 10-K, as well as other risks and uncertainties, could materially and adversely affect our business, results of operations and financial condition, which in turn could materially and adversely affect the trading price of shares of our Common Stock. Additional risks not currently known or currently material to us may also harm our business.

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

All information under this Item has been previously reported on our Current Reports on Form 8-K.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

ITEM 5. OTHER INFORMATION

The information contained in Note 9 to the Consolidated Financial Statements in Part I, Item 1 is incorporated herein by reference.

ITEM 6. EXHIBITS

Exhibit

Number Document Description

- 10.1 Lease Agreement between Arrowhead Madison Inc. and University Research Park, Incorporated, dated January 8, 2016\*
- 31.1 Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002\*
- 31.2 Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002\*
- 32.1 Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002\*\*
- 32.2 Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002\*\*
- 101 The following materials from Registrant's Quarterly Report on Form 10-Q for the quarter ended December 31, 2015, formatted in XBRL (Extensible Business Reporting Language): (1) Consolidated Balance Sheets, (2) Consolidated Statements of Operations, (3) Consolidated Statement of Stockholders' Equity, (4) Consolidated Statements of Cash Flows, and (5) Notes to Consolidated Financial Statements. \*\*

\* Filed herewith

\*\*Furnished herewith

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: February 9, 2016

ARROWHEAD RESEARCH  
CORPORATION

By: /s/ Kenneth A. Myszkowski  
Kenneth A. Myszkowski  
Chief Financial Officer