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 June 30, 2017

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

Commission file number 000-21898

ARROWHEAD PHARMACEUTICALS, INC.

(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 required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

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

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

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

The number of shares of the registrant’s common stock outstanding as of August 1, 2017 was 74,772,103.

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Arrowhead Pharmaceuticals, Inc.
Consolidated Balance Sheets

	(unaudited) June 30, 2017	September 30, 2016
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 38,383,135	$ 85,366,448
Accounts receivable	937,313	75,000
Prepaid expenses	931,042	1,289,923
Other current assets	896,150	3,771,172
Short term investments	36,754,754	-
TOTAL CURRENT ASSETS	77,902,394	90,502,543
Property and equipment, net	16,134,991	15,386,761
Intangible assets, net	20,889,546	22,164,868
Other assets	154,618	122,333
TOTAL ASSETS	**$ 115,081,549**	**$ 128,176,505**
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	$ 3,233,421	$ 12,232,906
Accrued expenses	1,993,674	4,587,467
Accrued payroll and benefits	1,034,569	3,969,706
Deferred rent	440,580	440,580
Deferred revenue	13,283,006	2,569,792
Derivative liabilities	83,113	1,602,626
Note Payable	204,844	194,310
Other current liabilities	46,407	46,407
TOTAL CURRENT LIABILITIES	20,319,614	25,643,794
LONG-TERM LIABILITIES		
Deferred rent, net of current portion	2,016,113	2,274,997
Deferred revenue, net of current portion	625,000	2,500,000
Note Payable, net of current portion	2,378,538	2,533,455
Other non-current liabilities	200,000	200,000
TOTAL LONG-TERM LIABILITIES	5,219,651	7,508,452
Commitments and contingencies (Note 7)		
STOCKHOLDERS' EQUITY		
Arrowhead Pharmaceuticals, Inc. stockholders' equity:		
Preferred stock, $0.001 par value; 5,000,000 shares authorized; 0 and 15,652 shares issued and outstanding as of June 30, 2017 and September 30, 2016	-	16
Common stock, $0.001 par value; 145,000,000 shares authorized; 74,772,103 and 69,746,685 shares issued and outstanding as of June 30, 2017 and September 30, 2016, respectively	167,142	162,116
Additional paid-in capital	512,032,168	493,844,909
Accumulated other comprehensive income (loss)	(18,386)	7,449
Accumulated deficit	(422,083,452)	(398,435,043)
Total Arrowhead Pharmaceuticals, Inc. stockholders' equity	90,097,472	95,579,447
Noncontrolling interest	(555,188)	(555,188)
TOTAL STOCKHOLDERS' EQUITY	89,542,284	95,024,259
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	**$ 115,081,549**	**$ 128,176,505**

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

Arrowhead Pharmaceuticals, Inc.
Consolidated Statements of Operations
(unaudited)

	Three Months ended June 30, 2017	Three Months ended June 30, 2016	Nine Months ended June 30, 2017	Nine Months ended June 30, 2016
REVENUE	**$ 9,342,498**	**$ 39,583**	**$ 22,693,923**	**$ 127,083**
OPERATING EXPENSES				
Research and development	6,906,016	9,423,195	23,409,892	29,782,854
Salaries and payroll-related costs	3,421,089	4,113,262	11,281,194	12,281,841
General and administrative expenses	1,853,669	2,275,628	5,330,717	8,045,571
Stock-based compensation	1,713,228	2,750,785	5,881,901	7,547,967
Depreciation and amortization	1,162,660	818,200	3,535,915	2,416,461
TOTAL OPERATING EXPENSES	**15,056,662**	**19,381,070**	**49,439,619**	**60,074,694**
OPERATING LOSS	(5,714,164)	(19,341,487)	(26,745,696)	(59,947,611)
OTHER INCOME (EXPENSE)				
Interest income (expense), net	131,358	34,103	265,250	213,543
Change in value of derivatives	63,065	(113,359)	1,519,513	233,052
Other income (expense)	-	-	1,312,524	-
TOTAL OTHER INCOME (EXPENSE)	**194,423**	**(79,256)**	**3,097,287**	**446,595**
LOSS BEFORE INCOME TAXES	**(5,519,741)**	**(19,420,743)**	**(23,648,409)**	**(59,501,016)**
Provision for income taxes	-	-	-	-
NET LOSS	**(5,519,741)**	**(19,420,743)**	**(23,648,409)**	**(59,501,016)**
NET LOSS PER SHARE - BASIC & DILUTED	$ (0.07)	$ (0.32)	$ (0.32)	$ (1.00)
Weighted average shares outstanding - basic and diluted	74,772,103	59,966,955	73,603,852	59,764,129
OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX:				
Foreign Currency Translation Adjustments	12,309	(90,625)	(25,835)	105,713
COMPREHENSIVE LOSS	**$ (5,507,432)**	**$ (19,511,368)**	**$ (23,674,244)**	**$ (59,395,303)**

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

Arrowhead Pharmaceuticals, Inc.
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, 2016	**15,652**	**$ 16**	**69,746,685**	**$ 162,116**	**$ 493,844,909**	**$ 7,449**	**$ (398,435,043)**	**$ (555,188)**	**$ 95,024,259**
Stock-based compensation	-	-	-	-	5,881,901	-	-	-	5,881,901
Exercise of stock options	-	-	135,730	136	271,795				271,931
Common stock- Restricted Stock Units vesting	-	-	472,889	473	(382,036)	-	-	-	(381,563)
Common stock issued to Amgen at $7.16 per share	-	-	1,745,810	1,746	12,418,254	-	-	-	12,420,000
Preferred stock converted to common stock	(15,652)	(16)	2,670,989	2,671	(2,655)	-	-	-	-
Foreign currency translation adjustments	-	-	-	-	-	(25,835)	-	-	(25,835)
Net loss for the nine months ended June 30, 2017	-	-	-	-	-	-	(23,648,409)	-	(23,648,409)
Balance at June 30, 2017	**-**	**$ -**	**74,772,103**	**$ 167,142**	**$ 512,032,168**	**$ (18,386)**	**$ (422,083,452)**	**$ (555,188)**	**$ 89,542,284**

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

Arrowhead Pharmaceuticals, Inc.
Consolidated Statements of Cash Flows
(unaudited)

	Nine Months ended June 30, 2017	Nine Months ended June 30, 2016
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (23,648,409)	$ (59,501,016)
Change in value of derivatives	(1,519,513)	(233,052)
Stock-based compensation	5,881,901	7,547,967
Depreciation and amortization	3,535,915	2,416,461
Amortization/(accretion) of note premiums	(140,041)	201,346
Changes in operating assets and liabilities:		
Accounts receivable	(862,313)	-
Prepaid expenses and Other Current Assets	3,176,551	(887,426)
Deferred revenue	8,796,246	-
Accounts payable	(4,353,087)	913,664
Accrued expenses	(5,337,827)	(4,728,300)
Other	(264,921)	24,249
NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	(14,735,498)	(54,246,107)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(7,810,754)	(1,147,748)
Purchases of marketable securities	(39,904,676)	-
Proceeds from sale of marketable securities	3,289,963	16,308,000
NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES	(44,425,467)	15,160,252
CASH FLOWS FROM FINANCING ACTIVITIES:		
Principal payments on capital leases and notes payable	(97,145)	(162,824)
Payments of taxes for net share settled restricted stock unit issuances	(417,140)	(634,187)
Proceeds from the exercises of warrants and stock options	272,818	2,285,055
Proceeds from the issuance of common stock	12,419,119	-
NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES	12,177,652	1,488,044
NET INCREASE (DECREASE) IN CASH	(46,983,313)	(37,597,811)
CASH AT BEGINNING OF PERIOD	85,366,448	81,214,354
CASH AT END OF PERIOD	$ 38,383,135	$ 43,616,543
Supplementary disclosures:		
Interest Paid	$ (142,033)	$ (8,906)
Property and equipment purchased through tenant improvement allowance financing	$ -	$ (4,849,360)
Income Tax Credits Refunded	$ 3,635,016	$ 1,365,288
Income Tax Paid	$ (2,400)	$ (2,400)

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

Unless otherwise noted, (1) the term "Arrowhead" refers to Arrowhead Pharmaceuticals, Inc., a Delaware corporation and its Subsidiaries, (2) the terms "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 (6) the term "Stockholder(s)" refers to the holders of Arrowhead Common Stock.

NOTE 1. *ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES*

Nature of Business and Recent Developments

Arrowhead develops novel drugs to treat intractable diseases by silencing the genes that cause them. Using a broad 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. Arrowhead's RNAi-based therapeutics leverage this natural pathway of gene silencing. The company's pipeline includes ARO-HBV for chronic hepatitis B virus, ARO-AAT for liver disease associated with alpha-1 antitrypsin deficiency (AATD), ARO-F12 for hereditary angioedema and thromboembolic disorders, ARO-HIF2 for renal cell carcinoma, and ARO-AMG1 for an undisclosed genetically validated cardiovascular target under a license and collaboration agreement with Amgen, Inc., a Delaware corporation ("Amgen"). ARO-LPA for cardiovascular disease was recently out-licensed to Amgen.

During a portion of the first quarter of fiscal 2017, the Company continued to develop its former clinical candidates, ARC-520 and ARC-521, for the treatment of chronic hepatitis B infection as well as ARC-AAT, an RNAi therapeutic designed to treat liver disease associated with AATD. However, in November 2016, the Company announced that it would be discontinuing these clinical programs, and redeploying its resources and focus toward utilizing the Company's new proprietary subcutaneous and extra-hepatic delivery systems. Each of these former clinical candidates utilized the intravenously administered DPC_{iv}, or EX1, delivery vehicle. The decision to discontinue development of EX1-containing programs was based primarily on two factors. First, during ongoing discussions with regulatory agencies and outside experts, it became apparent that there would be substantial delays in all clinical programs that utilize EX1, while the Company further explored the cause of deaths in a non-clinical toxicology study in non-human primates. Second, the Company has made substantial advances in RNA chemistry and targeting resulting in large potency gains for subcutaneous administered and extra-hepatic RNAi-based development programs. In preclinical studies with the subcutaneous platform, the Company has obtained depth and duration of target gene knockdown approaching that of intravenously administered EX1-containing candidates, at lower doses and with good safety margins. ARO-HBV and ARO-AAT are the Company's subcutaneous administered preclinical candidates for chronic hepatitis B virus and liver disease associated with AATD, respectively.

Liquidity

The Consolidated Financial Statements have been prepared in conformity with the accounting principles generally accepted in the United States of America, which contemplate the continuation of the Company as a going concern. 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. The Company expects its operations to continue to require cash investment to pursue its research and development goals, including clinical trials and related drug manufacturing.

At June 30, 2017, the Company had $38.4 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. At June 30, 2017, the Company had invested $36.8 million in bonds. During the nine months ended June 30, 2017, the Company's cash and investments balances combined decreased by $10.2 million, which was the result of $44.7 million in cash outflows related to operating activities (excluding the upfront payment from Amgen), and $7.8 million of capital expenditures, offset by $42.5 million in upfront payments and equity investments from Amgen.

On November 18, 2016, the Company and Amgen received Hart-Scott-Rodino clearance with regard to the ARO-LPA Agreement discussed in Note 2 below. Based on the terms of the ARO-LPA Agreement, and the Common Stock Purchase Agreement discussed in Note 2 below, on November 18, 2016, the Company issued 1,745,810 shares of Common Stock to Amgen, and received proceeds of approximately $12.5 million. Additionally, the Company received a $30 million upfront payment due under the ARO-LPA Agreement discussed below.

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 facility is 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 an original maturity of three months or less to be cash equivalents. The Company had no restricted cash at June 30, 2017 and September 30, 2016.

Concentration of Credit Risk—The Company maintains several bank accounts at two financial institutions for its operations. 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 and other debt instruments. Investments may include 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.

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—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.

Contingent Consideration - The consideration for the Company's acquisitions may include potential 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 an 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. The Company determined the fair value of its contingent consideration obligation to be $0 at June 30, 2017 and September 30, 2016, given the discontinuation of its clinical trials.

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.

The Company may generate revenue from technology licenses, collaborative research and development arrangements, and product sales. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, manufacturing and development services and various milestone and future product royalty or profit-sharing payments. These agreements are considered to be multiple element arrangements.

The Company applies the accounting standard on revenue recognition for multiple element arrangements. The fair value of deliverables under the arrangement may be derived using a best estimate of selling price if vendor specific objective evidence and third-party evidence is not available. Deliverables under the arrangement will be separate units of accounting if a delivered item has value to the customer on a standalone basis, if the arrangement includes a general right of return for the delivered item, and if delivery or performance of the undelivered item is considered probable and substantially in the control of the vendor.

The Company recognizes upfront license payments as revenue upon delivery of the license only if the license has standalone value from any undelivered performance obligations and that value can be determined. The undelivered performance obligations typically include manufacturing or development services or research and/or steering committee services. If the fair value of the undelivered performance obligations can be determined, then these obligations would be accounted for separately. If the license is not considered to have standalone value, then the license and other undelivered performance obligations would be accounted for as a single unit of accounting. In this case, the license payments and payments for performance obligations are recognized as revenue over the estimated period of when the performance obligations are performed or deferred indefinitely until the undelivered performance obligation is determined.

Whenever the Company determines that an arrangement should be accounted for as a single unit of accounting, the Company determines the period over which the performance obligations will be performed and revenue will be recognized. Revenue is recognized using a proportional performance or straight-line method. The proportional performance method is used when the level of effort required to complete performance obligations under an arrangement can be reasonably estimated. The amount of revenue recognized under the proportional performance method is determined by multiplying the total payments under the contract, excluding royalties and payments contingent upon achievement of milestones, by the ratio of the level of effort performed to date to the estimated total level of effort required to complete performance obligations under the arrangement. If the Company cannot reasonably estimate the level of effort to complete performance obligations under an arrangement, the Company recognizes revenue under the arrangement on a straight-line basis over the period the Company is expected to complete its performance obligations. Significant management judgment is required in determining the level of effort required under an arrangement and the period over which the Company is expected to complete its performance obligations under an arrangement.

Many of the Company's collaboration agreements entitle the Company to additional payments upon the achievement of development, regulatory and sales performance-based milestones. If the achievement of a milestone is considered probable at the inception of the collaboration agreement, the related milestone payment is included with other collaboration consideration, such as upfront fees and research funding, in the Company's revenue calculation. Typically these milestones are not considered probable at the inception of the collaboration. As such, milestones will typically be recognized in one of two ways depending on the timing of when the milestone is achieved. If the milestone is achieved during the performance period, the Company will only recognize revenue to the extent of the proportional performance achieved at that date, or the proportion of the straight-line basis achieved at that date, and the remainder will be recorded as deferred revenue to be amortized over the remaining performance period. If the milestone is

achieved after the performance period has completed and all performance obligations have been delivered, the Company will recognize the milestone payment as revenue in its entirety in the period the milestone was achieved.

Deferred revenue will be classified as part of Current or Long-Term Liabilities in the accompanying Consolidated Balance Sheets based on the Company's estimate of the portion of the performance obligations regarding that revenue will be completed within the next 12 months divided by the total performance period estimate. This estimate is based on the Company's current operating plan and, if the Company's operating plan should change in the future, the Company may recognize a different amount of deferred revenue over the next 12-month period.

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 and nine months ended June 30, 2017 and 2016 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 the Company's 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 – 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 due to 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.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09 Revenue from Contracts with Customers (Topic 606), which will supersede nearly all existing revenue recognition guidance under GAAP. ASU No. 2014-09 provides that an entity recognize revenue when it

transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This update also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments, and assets recognized from costs incurred to obtain or fulfill a contract. ASU No. 2014-09 allows for either full retrospective or modified retrospective adoption and will become effective for the Company in the first quarter of fiscal 2019. In April 2016, the FASB issued an amendment to ASU No. 2014-09 with update ASU 2016-10 which provided more specific guidance around the identification of performance obligations and licensing arrangements. The Company is evaluating the potential effects of the adoption of this update on its financial statements.

In March 2016, the FASB issued ASU No. 2016-02, Leases. Under ASU 2016-02, lessees will be required to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). For income statement purposes, a dual model was retained, requiring leases to be classified as either operating or finance. Operating leases will result in straight-line expense (similar to current operating leases) while finance leases will result in a front-loaded expense pattern (similar to current capital leases). ASU 2016-02 becomes effective for the Company in the first quarter of fiscal 2020. The Company expects the adoption of this update to have a material effect on the classification and disclosure of its leased facilities in Madison, Wisconsin.

In May 2017, the FASB issued ASU No. 2017-09, which is an update to Topic 718, Compensation - Stock Compensation. The update provides guidance on determining which changes to the terms and conditions of share-based payment awards, including stock options, require an entity to apply modification accounting under Topic 718. ASU 2017-09 becomes effective for the Company in the first quarter of fiscal 2019. The Company does not expect that ASU 2017-09 will have a material impact on the Company's results of operations and consolidated financial statements.

NOTE 2. ***COLLABORATION AND LICENSE AGREEMENTS – AMGEN, INC.***

On September 28, 2016, the Company entered into two Collaboration and License agreements, and a Common Stock Purchase Agreement with Amgen. Under one of the license agreements (the “Second Collaboration and License Agreement” or “ARO-LPA Agreement”), Amgen has received a worldwide, exclusive license to Arrowhead’s novel, RNAi ARO-LPA program. These RNAi molecules are designed to reduce elevated lipoprotein(a), which is a genetically validated, independent risk factor for atherosclerotic cardiovascular disease. Under the other license agreement (the “First Collaboration and License Agreement” or “ARO-AMG1 Agreement”), Amgen received an option to a worldwide, exclusive license for ARO-AMG1, an RNAi therapy for an undisclosed genetically validated cardiovascular target. In both agreements, Amgen will be wholly responsible for clinical development and commercialization.

Under the Common Stock Purchase Agreement, the Company has sold 3,002,793 shares of Common Stock to Amgen at a price of $7.16 per share, which represents the 30-day volume-weighted average price of the Common Stock on the NASDAQ stock market over the 30 trading days preceding contract execution. Subject to Amgen’s exercise of the Option, as defined in the ARO-AMG1 Agreement, Amgen has agreed to purchase, and the Company has agreed to sell, an additional $5 million worth of shares of Common Stock based on a 30 trading day formula surrounding the date of the Option exercise.

Under the terms of the agreements taken together, the Company has received $35 million in upfront payments, $21.5 million in the form of an equity investment by Amgen in the Company’s Common Stock, and could receive up to $617 million in option payments, and development, regulatory and sales milestone payments. The Company is further eligible to receive single-digit royalties for sales of products under the ARO-AMG1 Agreement and up to low double-digit royalties for sales of products under the ARO-LPA Agreement.

Under the terms of the First Collaboration and License Agreement, the Company has granted a worldwide, exclusive license to ARO-AMG1, an undisclosed genetically validated cardiovascular target. The collaboration between the Company and Amgen is governed by a joint steering committee comprised of an equal number of representatives from each party. The Company is also responsible for developing, optimizing and manufacturing the candidate through certain preclinical efficacy and toxicology studies to determine whether the candidate the Company has developed meets the required criteria as defined in the agreement (the “Arrowhead Deliverable”). If this is achieved, Amgen will then have the option to an exclusive license for the intellectual property generated through the Company’s development efforts, and will likely assume all development, regulatory and commercialization efforts for the candidate upon the option exercise. The Company has determined that the significant deliverables under the First Collaboration and License Agreement include the license, the joint research committee and the development and manufacturing activities toward achieving the Arrowhead Deliverable. The Company also determined that, pursuant to the accounting guidance governing revenue

recognition on multiple element arrangements, the license and collective undelivered activities and services do not have standalone value due to the specialized nature of the activities and services to be provided by the Company. Therefore, the deliverables are not separable and, accordingly, the license and undelivered services are being treated as a single unit of accounting. The Company will recognize revenue on a straight-line basis from October 1, 2016, through September 30, 2018. The due date for achieving the Arrowhead Deliverable is September 28, 2018. The Company received the upfront payment of $5 million due under this agreement in September 2016. The initial $5 million payment was recorded as Deferred Revenue, and $0.6 million and $1.9 million of this was amortized into revenue during the three and nine months ended June 30, 2017, respectively. Should the Company achieve the Arrowhead Deliverable prior to the due date, unrecognized revenue will be accelerated and recognized.

Under the terms of the Second Collaboration and License Agreement, the Company has granted a worldwide, exclusive license to ARO-LPA. The collaboration between the Company and Amgen is governed by a joint research committee comprised of an equal number of representatives from each party, however Amgen has the final decision making authority regarding ARO-LPA in this committee. The Company is also responsible for assisting Amgen in the oversight of certain development and manufacturing activities, most of which are to be covered at Amgen's cost. The Company has determined that the significant deliverables under the Second Collaboration and License Agreement include the license and the oversight of certain of the development and manufacturing activities. The Company also determined that, pursuant to the accounting guidance governing revenue recognition on multiple element arrangements, the license and collective undelivered activities and services do not have standalone value due to the specialized nature of the activities and services to be provided by the Company. Therefore, the deliverables are not separable and, accordingly, the license and undelivered services are being treated as a single unit of accounting. The Company will recognize revenue on a straight-line basis from November 18, 2016 (the Hart-Scott-Rodino clearance date), through October 31, 2017, which is the date where the significant development and manufacturing related deliverables are anticipated to be completed. The Company received the upfront payment of $30 million due under this agreement in November 2016. The initial $30 million payment was recorded as Deferred Revenue, and $7.9 million and $19.4 million of this was amortized into Revenue during the three and nine months ended June 30, 2017, respectively.

In January 2017, the Company also entered into a separate services agreement with Amgen to provide certain services related to process development, manufacturing, materials supply, discovery studies, and other consulting services related to ARO-LPA. During the three and nine months ended June 30, 2017, work orders under this services agreement generated approximately $0.8 million and $1.4 million of revenue, respectively.

NOTE 3. ***INVESTMENTS***

The Company invests a portion of its excess cash balances in short-term debt securities and may, from time to time, also invest in long-term debt securities. Investments at June 30, 2017 consisted of corporate bonds with maturities remaining of less than one year. The Company may also invest excess cash balances in certificates of deposits, money market accounts, government-sponsored enterprise securities, corporate bonds and/or commercial paper. The Company accounts for its investments in accordance with FASB ASC 320, Investments – Debt and Equity Securities. At June 30, 2017, all investments were classified as held-to-maturity securities.

The following tables summarize the Company's short-term investments as of June 30, 2017, and September 30, 2016.

	As of June 30, 2017			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Commercial notes (due within one year)	$ 36,754,754	$ —	$ (303,620)	$ 36,451,134
Total	$ 36,754,754	$ —	$ (303,620)	$ 36,451,134

	As of September 30, 2016			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Commercial notes (due within one year)	$ —	—	$ —	$ —
Total	$ —	—	$ —	$ —

NOTE 4. ***PROPERTY AND EQUIPMENT***

The following table summarizes the Company's major classes of property and equipment:

	June 30, 2017	September 30, 2016
Computers, office equipment and furniture	$ 600,334	$ 442,915
Research equipment	9,600,062	7,490,400
Software	132,078	80,841
Leasehold improvements	12,161,833	11,885,365
Total gross fixed assets	22,494,307	19,899,521
Less: Accumulated depreciation and amortization	(6,359,316)	(4,512,760)
Property and equipment, net	$ 16,134,991	$ 15,386,761

During the nine months ended June 30, 2017, the Company's Research equipment increased as the Company continues to build out its new research facility in Madison, Wisconsin.

NOTE 5. ***INTANGIBLE ASSETS***

Intangible assets subject to amortization include patents and a license agreement capitalized as part of the Novartis RNAi asset acquisition in March 2015. 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 $346,279. 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 $3,621,389. Amortization expense for the three and nine months ended June 30, 2017 was $425,107 and $1,275,322, respectively. Amortization expense for the three and nine months ended June 30, 2016 was $425,107 and $1,289,206, respectively. Amortization expense is expected to be approximately $425,107 for the remainder of fiscal year 2017, $1,700,429 in 2018, $1,700,429 in 2019, $1,700,429 in 2020, $1,700,429 in 2021, $1,700,429 in 2022, and $11,962,294 thereafter.

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

	Intangible assets subject to amortization
Balance at September 30, 2016	$ 22,164,868
Impairment	-
Amortization	(1,275,322)
Balance at June 30, 2017	$ 20,889,546

NOTE 6. ***STOCKHOLDERS' EQUITY***

At June 30, 2017, 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 June 30, 2017, 74,772,103 shares of Common Stock were outstanding. At June 30, 2017, 8,978,823 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.

During the nine months ended June 30, 2017, 15,652 shares of Series C Preferred Stock were converted into 2,670,990 shares of Common Stock. No preferred stock was outstanding as of June 30, 2017.

On March 21, 2017, the Board of Directors (the "Board") of the Company authorized and declared a dividend distribution of one right (a "Right") for each outstanding share of Common Stock of the Company to stockholders of record at the close of business on March 22, 2017 (the "Record Date"). Each Right entitles the registered holder to purchase from the Company one one-thousandth of a share of Series D Junior Participating Preferred Stock, par value $0.001 per share (the "Preferred Shares"), of the Company at a purchase price of $20 per one one-thousandth of a Preferred Share (the "Purchase Price"). This portion of a share of Preferred Stock would give the holder thereof approximately the same dividend, voting and liquidation rights as would one share of Common Stock, with any variations set forth in the Certificate of Designation, Preferences, and Rights of Series D Junior Participating Preferred Stock attached hereto as Exhibit 3.1. The Rights become exercisable on the earlier of (i) 10 business days following a public announcement that a person has become an "Acquiring Person" by acquiring beneficial ownership of 15% or more of the Common Stock then outstanding, other than as a result of repurchases of Common Stock by the Company or certain inadvertent acquisitions; or (ii) 10 business days (or such later date as the Board shall determine prior to the time a person becomes an Acquiring Person) after the commencement of a tender offer or an exchange offer by or on behalf of any person (other than the Company and certain related entities) that, if completed, would result in such person becoming an Acquiring Person. In the event that a person becomes an Acquiring Person, each holder of a Right shall thereafter have the right to receive, upon exercise, Common Stock (or, in certain circumstances, other securities, cash, or other assets of the Company) having a value equal to two times the Purchase Price. The Rights expire on March 21, 2018.

On November 18, 2016, a tranche of 1,745,810 shares was sold to Amgen at a price of $7.16 per share as part of the ARO-LPA Agreement discussed in Note 2 above. The Company received proceeds of $12.5 million in November 2016.

The following table summarizes information about warrants outstanding at June 30, 2017:

Exercise prices	Number of Warrants	Remaining Life in Years
$ 2.12	75,000	0.7
$ 1.83	277,284	0.5
$ 7.14	80,000	1.0
Total warrants outstanding	432,284	

NOTE 7. ***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. Monthly rental payments are approximately $27,000 per month, increasing approximately 3% annually.

The Company also leases approximately 60,000 square feet of office and laboratory space for its research facility in Madison, Wisconsin. The lease will expire in September 2026. As part of this lease, the Company was provided a primary tenant improvement allowance of $2.1 million, which is accounted for as Deferred Rent and a secondary tenant improvement allowance of $2.7 million which is accounted for as a Note Payable on the Company's Consolidated Balance Sheet. Monthly rental payments, including common area maintenance, real estate taxes and payments of principal and interest on the Note Payable are approximately $180,200 per month. The monthly rental payments (excluding principal and interest on the Note Payable), will increase approximately 2.5% annually.

The Company previously leased additional research facility space in Middleton, Wisconsin; however, this lease expired in December 2016. Monthly rental expense for the Middleton space was approximately $14,000. Other monthly rental expenses included common area maintenance and real estate taxes totaling approximately $4,000 per month.

Facility rent expense for the three and nine months ended June 30, 2017 was $328,600 and $1,126,500, respectively, and facility rent expense for the three and nine months ended June 30, 2016 was $232,000 and $659,000, respectively.

As of June 30, 2017, future minimum lease payments due in fiscal years under operating leases are as follows:

2017	$ 373,394
2018	1,531,234
2019	1,435,409
2020	1,044,431
2021	1,070,496
2022 and thereafter	5,766,495
Total	$ 11,221,459

Note Payable

As part of the Company's lease for its research facility in Madison, Wisconsin discussed above, the Company entered into a $2.7 million promissory note payable with its landlord to finance certain tenant improvements made to the new facility. The note will be amortized over the 10-year term of the lease, commencing on October 1, 2016. The note bears interest at a rate of 7.1% and is payable in equal monthly installments of principal and interest.

As of June 30, 2017, future principal payments due in fiscal years under the note payable are as follows:

2017	$ 49,857
2018	208,506
2019	223,820
2020	240,258
2021	257,903
2022 and thereafter	1,603,038
Total	$ 2,583,382

Litigation

The Company and certain of its officers and directors were named as defendants in a putative consolidated class action in 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), asserted claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and sought 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 alleged 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. On October 7, 2016, the federal district court dismissed the consolidated class action with prejudice. On October 10, 2016 the plaintiffs appealed the dismissal of the consolidated class action to the United States Court of Appeals for the Ninth Circuit. The Weisman and Johnson derivative actions have been dismissed without prejudice. The Bernstein derivative action remains pending and is stayed pending the related consolidated class action. The Company believes it has meritorious defenses and intends to vigorously defend itself in each of these 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 a 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 recognizes such costs as incurred.

The Company and certain executive officers were named as defendants in a putative consolidated class action in the United States District Court for the Central District of California regarding certain public statements in connection with the Company's drug research programs. The consolidated class action, initially filed as *Meller v. Arrowhead Pharmaceuticals, Inc., et al.*, No. 2:16-cv-08505 (C.D. Cal, filed Nov. 15, 2016), *Siegel v. Arrowhead Pharmaceuticals, Inc., et al*., No. 2:16-cv-8954 (C.D. Cal., filed Dec. 2, 2016), and *Unz v. Arrowhead Pharmaceuticals, Inc., et al*., No.2:17-cv-00310 (C.D. Cal., filed Jan. 13, 2017) asserts claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 regarding certain public statements in connection with the Company's drug research programs and seek damages in an unspecified amount. Additionally, a putative stockholder derivative action captioned *Johnson v. Anzalone, et al*., (Los Angeles County Superior Court, filed January 19, 2017) asserting substantially similar claims is pending in Los Angeles County Superior Court and is stayed pending the related consolidated class action. Two additional putative stockholder derivative actions, captioned Lucas v. Anzalone, et al., No. 2:17-cv-03207 (C.D. Cal., filed April 28,

2017), and Singh v. Anzalone, et al., No. 2:17-cv-03160 (C.D. Cal., filed April 27, 2017), alleging breach of fiduciary duty by the Company's Board of Directors in connection with the alleged facts underlying the securities claims, are pending in the United States District Court for the Central District of California. The Lucas and Singh actions have been consolidated. The Company believes it has meritorious defenses and intends to vigorously defend itself in these 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 cannot predict the ultimate outcome of this matter and cannot accurately estimate any potential liability the Company may incur or the impact of the results of this matter on the Company. With regard to legal fees, such as attorney fees related to these matters or any other legal matters, the Company recognizes such costs as incurred.

Purchase Commitments

In the normal course of business, we enter into various purchase commitments for the manufacture of drug components, for toxicology studies, and for clinical studies. As of June 30, 2017, these future commitments were estimated at approximately $14.3 million, of which approximately $5.0 million is expected to be incurred in fiscal 2017, and $9.3 million is expected to be incurred beyond fiscal 2017.

Technology License Commitments

The Company has licensed from third parties the rights to use certain technologies for 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. During the three and nine months ended June 30, 2017 and 2016, the Company did not reach any milestones. 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 8. *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 June 30, 2017, 2,132,786 and 6,329,079 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 awards to employees, consultants and others. No further grants may be made under the 2004 Equity Incentive Plan. As of June 30, 2017, there were options granted and outstanding to purchase 2,132,786 and 3,111,017 shares of Common Stock under the 2004 Equity Incentive Plan and the 2013 Incentive Plan, respectively, and there were 3,098,001 restricted stock units granted and outstanding under the 2013 Incentive Plan. Also, as of June 30, 2017, there were 493,625 shares reserved for options and 23,333 restricted stock units issued as inducement grants to new employees outside of equity compensation plans. During the three and nine months ended June 30, 2017 no options or restricted stock units were granted under the 2004 Equity Incentive Plan, 18,000 options and 591,000 options were granted under the 2013 Incentive Plan, in each period, 978,000 and 2,623,000 restricted stock units were granted under the 2013 Incentive Plan in each period, 47,000 options were granted as inducement awards to new employees outside of equity incentive plans in each period, and no restricted stock units were granted as inducement awards to new employees outside of equity incentive plans.

The following table summarizes information about stock options:

	Number of Options Outstanding	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Balance At September 30, 2016	6,691,200	$ 6.56		
Granted	638,000	1.95		
Cancelled	(1,456,041)	7.23		
Exercised	(135,730)	2.01		
Balance At June 30, 2017	5,737,429	$ 5.98	6.6 years	$ 37,440
Exercisable At June 30, 2017	4,030,677	$ 6.33	5.8 years	$ 0

Stock-based compensation expense related to stock options for the three and nine months ended June 30, 2017 was $1,021,653 and $3,558,082, respectively, and stock-based compensation expense related to stock options for the three and nine months ended June 30, 2016 was $1,476,384 and $4,205,413, 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 the Company for the three and nine months ended June 30, 2017 was $70,937 and $849,816, respectively, and the grant date fair value of the options granted by the Company for the three and nine months ended June 30, 2016 was $30,440 and $6,359,672, respectively.

The intrinsic value of the options exercised during the three and nine months ended June 30, 2017 was $0 and $35,512, respectively, and the intrinsic value of the options exercised during the three and nine months ended June 30, 2016 was $0 and $3,515, respectively.

As of June 30, 2017, the pre-tax compensation expense for all outstanding unvested stock options in the amount of approximately $5,749,244 will be recognized in the Company's results of operations over a weighted average period of 1.9 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 the Company's 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:

	Nine Months Ended June 30,	
	2017	2016
Dividend yield	—	—
Risk-free interest rate	1.34 – 2.31%	1.42 – 1.89%
Volatility	79%	89%
Expected life (in years)	5.75 – 6.25	6.25
Weighted average grant date fair value per share of options granted	$1.33	$4.59

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 and nine months ended June 30, 2017, the Company awarded 978,000 and 2,623,000 restricted stock units, respectively, to certain members of management. At vesting, each existing RSU will be exchanged for one share of the Company's Common Stock. RSU recipients may elect to net share settle upon vesting, in which case the Company pays the employee's income taxes withheld upon vesting and withholds a number of shares of equal value. RSU 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 RSUs:

	Number of RSUs	Weighted-Average Grant Date Fair Value
Unvested at September 30, 2016	1,356,667	$ 6.72
Granted	2,623,000	1.59
Vested	(773,333)	6.89
Forfeited	(85,000)	1.55
Unvested at June 30, 2017	3,121,334	$ 2.51

During the three and nine months ended June 30, 2017, the Company recorded $691,575 and $2,323,819 of expense related to RSUs, respectively, and during the three and nine months ended June 30, 2016, the Company recorded $1,274,401 and $3,342,554 of expense related to RSUs, respectively. Such expense is included in stock-based compensation expense in the Company's Consolidated Statement of Operations and Comprehensive Loss.

For RSUs, 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 June 30, 2017, the pre-tax compensation expense for all unvested RSUs in the amount of approximately $3,222,441 will be recognized in the Company's results of operations over a weighted average period of 1.3 years.

NOTE 9. ***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.

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 June 30, 2017 and September 30, 2016 for assets and liabilities measured at fair value on a recurring basis:

June 30, 2017:

	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ 38,383,135	$ —	$ —	$ 38,383,135
Short-term investments	$ 36,451,134	$ —	$ —	$ 36,451,134
Derivative liabilities	$ —	$ —	$ 83,113	$ 83,113

September 30, 2016:

	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ 85,366,448	$ —	$ —	$ 85,366,448
Short-term investments	$ —	$ —	$ —	$ —
Derivative liabilities	$ —	$ —	$ 1,602,626	$ 1,602,626

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 June 30, 2017. 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 June 30, 2017. 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 and nine months ended June 30, 2017, the Company recorded a non-cash gain/(loss) from the change in fair value of the derivative liability of $61,915 and $1,490,863, respectively, and during the three and nine months ended June 30, 2016, the Company recorded a non-cash gain/(loss) from the change in fair value of the derivative liability of $(110,859) and $230,082, respectively.

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

2012 Warrants	June 30, 2017	September 30, 2016
Risk-free interest rate	1.14%	0.68%
Expected life	0.5 Years	1.2 Years
Dividend yield	—	—
Volatility	79%	89%
2013 Warrants	June 30, 2017	September 30, 2016
Risk-free interest rate	1.14%	0.68%
Expected life	0.6 Years	1.3 Years
Dividend yield	—	—
Volatility	79%	89%

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

Value at September 30, 2016	$	1,565,874
Issuance of instruments		—
Change in value		(1,490,863)
Net settlements		—
Value at June 30, 2017	$	75,011

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 and a current exchange ratio of 0.01. Exchange rights for 675,000 Ablaris shares were sold in fiscal 2011, and 500,000 remain outstanding at June 30, 2017. 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 and nine months ended June 30, 2017, the Company recorded a non-cash gain/(loss) from the change in fair value of the derivative liability of $1,150 and $28,650, respectively, and during the three and nine months ended June 30, 2016, the Company recorded a non-cash gain/(loss) from the change in fair value of the derivative liability of $(2,500) and $2,200, respectively.

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

	June 30, 2017	**September 30, 2016**
Risk-free interest rate	1.14%	0.68%
Expected life	0.7 Years	1.5 Years
Dividend yield	—	—
Volatility	79%	89%

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

Value at September 30, 2016	$	36,752
Issuance of instruments		—
Change in value		(28,650)
Net settlements		—
Value at June 30, 2017	$	8,102

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 the Company's derivatives liabilities is the Company's stock price. Other inputs have a comparatively insignificant effect.

The Company's investments at June 30, 2017 consisted of corporate bonds with maturities remaining of less than one year. The total fair value of the investments at June 30, 2017 was $36,451,134. The fair value of these investments is measured using quoted market prices, and therefore, they are classified as level 1 assets.

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.

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 our most recent Annual Report on Form 10-K 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 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 Pharmaceuticals, Inc. develops novel drugs to treat intractable diseases by silencing the genes that cause them. Using a broad 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. Arrowhead's RNAi-based therapeutics leverage this natural pathway of gene silencing. The company's pipeline includes ARO-HBV for chronic hepatitis B virus, ARO-AAT for liver disease associated with alpha-1 antitrypsin deficiency (AATD), ARO-F12 for hereditary angioedema and thromboembolic disorders, ARO-HIF2 for renal cell carcinoma, and ARO-AMG1 for an undisclosed genetically validated cardiovascular target under a license and collaboration agreement with Amgen, Inc., a Delaware corporation ("Amgen"). ARO-LPA for cardiovascular disease was recently out-licensed to Amgen.

Arrowhead operates a lab facility in Madison, 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 a portion of the first quarter of fiscal 2017, the Company continued to develop its former clinical candidates, ARC-520 and ARC-521, for the treatment of chronic hepatitis B infection as well as ARC-AAT, an RNAi therapeutic designed to treat liver disease associated with AATD. However, in November 2016, the Company announced that it would be discontinuing these clinical programs, and redeploying its resources and focus toward utilizing the Company's new proprietary subcutaneous and extra-hepatic delivery systems. Each of these former clinical candidates utilized the intravenously administered DPC_{iv}, or EX1, delivery vehicle. The decision to discontinue development of EX1-containing programs was based primarily on two factors. First, during ongoing discussions with regulatory agencies and outside experts, it became apparent that there would be substantial delays in all clinical programs that utilize EX1, while the Company further explored the cause of deaths in a non-clinical toxicology study in non-human primates. Second, the Company has made substantial advances in RNA chemistry and targeting resulting in large potency gains for subcutaneous administered and extra-hepatic RNAi-based development programs. In preclinical studies with the subcutaneous platform, the Company has obtained depth and duration of target gene knockdown approaching that of intravenously administered EX1-containing candidates, at lower doses and with good safety margins. ARO-HBV and ARO-AAT are the Company's subcutaneous administered preclinical candidates for chronic hepatitis B virus and liver disease associated with AATD, respectively.

In April 2017, the Company presented clinical data from the studies involving its previous clinical candidates (ARC-520, ARC-521 and ARC-AAT) at The International Liver Congress. With regard to ARC-520 and ARC-521, the data demonstrated that in human clinical studies, RNAi interference as a mechanism can rapidly and significantly reduce HBV viral antigens. In addition, RNAi appeared to synergize with current standard-of-care nucleotide and nucleoside analogues (NUCs) to rapidly lower serum levels of HBV DNA. With regard to ARC-AAT, the data demonstrated that an RNA interference therapeutic can achieve deep, durable and dose dependent reductions of alpha-1 antitrypsin with the highest dose studied in healthy volunteers achieving near full suppression of the liver production of the AAT protein. In addition, at doses of 2 and 4 mg/kg in AATD patients, ARC-AAT produced similar levels

of knockdown as seen in healthy volunteers. The data generated from these studies continue to inform and guide the development paths of the ARO-HBV and ARO-AAT.

The Company also continues progressing with its preclinical candidates including ARO-F12, ARO-HIF2 and ARO-LPA. The Company's most significant recent development for its preclinical candidates was for ARO-LPA. On September 28, 2016, the Company entered into two Collaboration and License agreements and a Common Stock Purchase Agreement with Amgen. Under one of the license agreements (the "First Collaboration and License Agreement" or "ARO-AMG1 Agreement"), Amgen has received an option to a worldwide, exclusive license for an RNAi therapy for ARO-AMG1, an undisclosed genetically validated cardiovascular target. Under the other license agreement (the "Second Collaboration and License Agreement" or "ARO-LPA Agreement"), Amgen has received a worldwide, exclusive license to Arrowhead's novel, RNAi ARO-LPA program. These RNAi molecules are designed to reduce elevated lipoprotein(a), which is a genetically validated, independent risk factor for atherosclerotic cardiovascular disease. In both agreements, Amgen is wholly responsible for clinical development and commercialization. Under the terms of the agreements taken together, the Company has received $35 million in upfront payments and $21.5 million in the form of an equity investment by Amgen in the Company's Common Stock, and could receive up to $617 million in option payments and development, regulatory and sales milestone payments. The Company is further eligible to receive single-digit royalties for sales of products under the ARO-AMG1 agreement and up to low double-digit royalties for sales of products under the ARO-LPA agreement. Regarding ARO-F12, in November 2016, the Company presented data showing that its developed triggers gave greater than 95% reduction of serum F12 levels after a single subcutaneous administration with no increased bleeding risk in its preclinical studies. This data illustrates the Company's advancements in its subcutaneous delivery systems. The Company is conducting relevant disease models and is considering other potential studies to support advancement of ARO-F12 into clinical trials. Regarding ARO-HIF2, in April 2016, the Company presented data showing that ARO-HIF2 inhibited renal cell carcinoma growth and promoted tumor cell death in its preclinical studies. ARO-HIF2 is the Company's first RNAi therapeutic to target tissues outside the liver.

The Company continues to develop other clinical candidates for future clinical trials. Clinical candidates are tested internally and through GLP toxicology studies at outside laboratories. Drug materials for such studies and clinical trials are contracted to third-party manufactures 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". If the clinical candidates progress through human testing, program costs will increase.

Net losses were $5.5 million and $23.6 million during the three and nine months ended June 30, 2017, respectively, and net losses were $19.4 million and $59.5 million during the three and nine months ended June 30, 2016, respectively. Diluted losses per share were $0.07 and $0.32 during the three and nine months ended June 30, 2017, respectively, and diluted losses per share were $0.32 and $1.00 during the three and nine months ended June 30, 2016, respectively. Increases in revenue in each period are the driver of the reductions in the net losses and diluted losses per share, as discussed further below.

The Company strengthened its liquidity and financial position through an equity offering completed in August 2016, which generated approximately $43.2 million of net cash proceeds for the Company. Additionally, the Company received $56.5 million in upfront payments and equity investments from Amgen. These cash proceeds secured the funding needed to continue to advance our preclinical candidates. The Company had $38.4 million of cash and cash equivalents, $36.8 million in short-term investments and $115.1 million of total assets as of June 30, 2017, as compared to $85.4 million, $0 million and $128.2 million as of September 30, 2016, respectively. Based upon the Company's current cash and short-term investment 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.

The Company 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, manufacturing and development services and various milestone and future product royalty or profit-sharing payments. These agreements are generally referred to as “multiple element arrangements”.

The Company applies the accounting standard on revenue recognition for multiple element arrangements. The fair value of deliverables under the arrangement may be derived using a best estimate of selling price if vendor specific objective evidence and third-party evidence is not available. Deliverables under the arrangement will be separate units of accounting if a delivered item has value to the customer on a standalone basis and if the arrangement includes a general right of return for the delivered item, delivery or performance of the undelivered item is considered probable and substantially in the control of the vendor.

The Company recognizes upfront license payments as revenue upon delivery of the license only if the license has standalone value from any undelivered performance obligations and that value can be determined. The undelivered performance obligations typically include manufacturing or development services or research and/or steering committee services. If the fair value of the undelivered performance obligations can be determined, then these obligations would be accounted for separately. If the license is not considered to have standalone value, then the license and other undelivered performance obligations would be accounted for as a single unit of accounting. In this case, the license payments and payments for performance obligations are recognized as revenue over the estimated period of when the performance obligations are performed or deferred indefinitely until the undelivered performance obligation is determined.

Whenever the Company determines that an arrangement should be accounted for as a single unit of accounting, the Company determines the period over which the performance obligations will be performed and revenue will be recognized. Revenue is recognized using a proportional performance or straight-line method. The proportional performance method is used when the level of effort required to complete performance obligations under an arrangement can be reasonably estimated. The amount of revenue recognized under the proportional performance method is determined by multiplying the total payments under the contract, excluding royalties and payments contingent upon achievement of milestones, by the ratio of the level of effort performed to date to the estimated total level of effort required to complete performance obligations under the arrangement. If the Company cannot reasonably estimate the level of effort to complete performance obligations under an arrangement, the Company recognizes revenue under the arrangement on a straight-line basis over the period the Company is expected to complete its performance obligations. Significant management judgment is required in determining the level of effort required under an arrangement and the period over which the Company is expected to complete its performance obligations under an arrangement.

Many of the Company’s collaboration agreements entitle the Company to additional payments upon the achievement of development, regulatory and sales performance-based milestones. If the achievement of a milestone is considered probable at the inception of the collaboration, the related milestone payment is included with other collaboration consideration, such as upfront fees and research funding, in the Company’s revenue calculation. Typically, these milestones are not considered probable at the inception of the collaboration. As such, milestones will typically be recognized in one of two ways depending on the timing of when the milestone is achieved. If the milestone is achieved during the performance period, then the Company will only recognize revenue to the extent of the proportional performance achieved at that date, or the proportion of the straight-line basis achieved at that date, and the remainder will be recorded as deferred revenue to be amortized over the remaining performance period. If the milestone is achieved after the performance period has completed and all performance obligations have been delivered, then the Company will recognize the milestone payment as revenue in its entirety in the period the milestone was achieved.

Deferred revenue will be classified as part of Current or Long-Term Liabilities in the accompanying Consolidated Balance Sheets based on the Company’s estimate of the portion of the performance obligations regarding that revenue will be completed within the next 12 months divided by the total performance period estimate. This estimate is based on the Company’s current operating plan and, if the Company’s operating plan should change in the future, the Company may recognize a different amount of deferred revenue over the next 12-month period.

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 recognize stock-based compensation expense for stock options based on the grant date fair value using the Black-Scholes options pricing model, which requires us to make assumptions regarding certain variables including the risk-free interest rate, expected stock price volatility, assumed forfeitures, and the expected life of the award. The grant date fair value of restricted stock units granted is based upon the quoted closing market price per share on the date of grant, adjusted for assumed forfeitures. For performance-based stock awards, the value of the award is measured at the grant date. Expense for stock options and restricted stock units is recognized over the requisite service period. The assumptions used in calculating stock-based compensation expense represent management's best estimates, but these estimates involve inherent uncertainties, and if factors change or the Company used different assumptions, its stock-based compensation expense could be materially different in the future.

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 Ended June 30, 2017	Three Months Ended June 30, 2016
Revenue	$ 9,342,498	$ 39,583
Operating Loss	(5,714,164)	(19,341,487)
Net Loss	(5,519,741)	(19,420,743)

	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016
Loss per Share (Basic and Diluted)	$ (0.07)	$ (0.32)

	Nine Months Ended June 30, 2017	Nine Months Ended June 30, 2016
Revenue	$ 22,693,923	$ 127,083
Operating Loss	(26,745,696)	(59,947,611)
Net Loss	(23,648,409)	(59,501,016)
Loss per Share (Basic and Diluted)	$ (0.32)	$ (1.00)

The increase in our Revenue during the three and nine months ended June 30, 2017 was driven by the upfront payments received from Amgen that we are beginning to recognize in these periods as performance is completed for the ARO-LPA and ARO-AMG1 agreements. This was also the key driver of the decrease in our Operating Loss, Net Loss and Loss per Share. Research and Development expenses also decreased in the fiscal 2017 periods due to the discontinuation of our previous clinical programs in November 2016.

Revenue

Total revenue was $9,342,498 and $22,693,923 for the three and nine months ended June 30, 2017 respectively, and total revenue was $39,583 and $127,083 for the three and nine months ended June 30, 2016, respectively. Revenue in the current period is primarily related to the upfront payments received from Amgen that we are beginning to recognize as performance is completed for the ARO-LPA and ARO-AMG1 agreements.

Under the terms of the ARO-LPA Agreement, the Company has granted a worldwide, exclusive license to ARO-LPA. The collaboration between the Company and Amgen is governed by a joint research committee comprised of an equal number of representatives from each party; however, Amgen has the final decision making authority regarding ARO-LPA in this committee. The Company is also responsible for assisting Amgen in the oversight of certain development and manufacturing activities, most of which are to be covered at Amgen's cost. The Company has determined that the significant deliverables under the ARO-LPA Agreement include the license and the oversight of certain of the development and manufacturing activities. The Company also determined that, pursuant to the accounting guidance governing revenue recognition on multiple element arrangements, the license and collective undelivered activities and services do not have standalone value due to the specialized nature of the activities and services to be provided by the Company. Therefore, the deliverables are not separable and, accordingly, the license and undelivered services are being treated as a single unit of accounting. The Company will recognize revenue on a straight-line basis from November 18, 2016 (the Hart-Scott-Rodino clearance date) through October 31, 2017, which is the date where the significant development and manufacturing related deliverables are anticipated to be completed. The Company received the upfront payment of $30 million due under this agreement in November 2016. The initial $30 million payment was recorded as Deferred Revenue, and $7.9 million and $19.4 million of this was amortized into Revenue during the three and nine months ended June 30, 2017.

Under the terms of the ARO-AMG1 Agreement, the Company has granted a worldwide, exclusive license to ARO-AMG1, an undisclosed genetically validated cardiovascular target. The collaboration between the Company and Amgen is governed by a joint steering committee comprised of an equal number of representatives from each party. The Company is also responsible for developing, optimizing and manufacturing the candidate through certain preclinical efficacy and toxicology studies to determine whether the candidate the Company has developed meets the required criteria as defined in the agreement (the "Arrowhead Deliverable"). If this is achieved, Amgen will then have the option to an exclusive license for the intellectual property generated through the Company's development efforts, and will likely assume all development, regulatory and commercialization efforts for the candidate upon the option exercise. The Company has determined that the significant deliverables under the ARO-AMG1 Agreement include the license, the joint research committee and the development and manufacturing activities toward achieving the Arrowhead Deliverable. The Company also determined that, pursuant to the accounting guidance governing revenue recognition on multiple element arrangements, the license and collective undelivered activities and services do not have standalone value due to the specialized nature of the activities and services to be provided by the Company. Therefore, the deliverables are not separable and, accordingly, the license and undelivered services are being treated as a single unit of accounting. The Company will recognize revenue on a straight-line basis from October 1, 2016, through September 30, 2018. The due date for achieving the Arrowhead Deliverable is September 28, 2018. The Company received the upfront payment of $5 million due under this agreement in September 2016. The initial $5 million payment was recorded as Deferred Revenue, and $0.6 million and $1.9 million of this was amortized into Revenue during the three and nine months ended June 30, 2017.

In January 2017, the Company also entered into a separate services agreement with Amgen to provide certain services related to process development, manufacturing, materials supply, discovery studies, and other consulting services related to ARO-LPA. During the three and nine months ended June 30, 2017, work orders under this services agreement generated approximately $0.8 million and $1.4 million of Revenue, respectively.

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 and nine months ended June 30, 2017 and 2016 are shown in the tables below.

Research and Development Expenses – Three and nine months ended June 30, 2017 compared to the three and nine months ended June 30, 2016

R&D expenses are related to the Company's on-going research and development efforts, and related program costs which are comprised 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)

	Three Months Ended June 30, 2017	% of Expense Category	Three Months Ended June 30, 2016	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
Laboratory supplies & services	$ 1,285	19%	$ 737	8%	$ 548	74%
In vivo studies	733	11%	505	5%	228	45%
Outside labs & contract services	143	2%	46	1%	97	211%
Toxicity/efficacy studies	110	2%	1,450	15%	(1,340)	-92%
Drug manufacturing	3,135	45%	2,529	27%	606	24%
Clinical trials	793	12%	3,787	40%	(2,994)	-79%
License, royalty & milestones	-	0%	12	0%	(12)	-100%
Facilities and related	648	9%	315	3%	333	106%
Other research expenses	59	1%	42	0%	17	36%
Total	$ 6,906	100%	$ 9,423	100%	$ (2,517)	-27%

	Nine Months Ended June 30, 2017	% of Expense Category	Nine Months Ended June 30, 2016	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
Laboratory supplies & services	$ 4,086	18%	$ 2,072	7%	$ 2,014	97%
In vivo studies	1,767	8%	1,221	4%	546	45%
Outside labs & contract services	415	2%	116	0%	299	258%
Toxicity/efficacy studies	717	3%	7,142	24%	(6,425)	-90%
Drug manufacturing	5,813	25%	7,849	26%	(2,036)	-26%
Clinical trials	8,649	37%	10,264	35%	(1,615)	-16%
License, royalty & milestones	-	0%	44	0%	(44)	-100%
Facilities and related	1,761	8%	927	3%	834	90%
Other research expenses	202	1%	148	1%	54	36%
Total	$ 23,410	100%	$ 29,783	100%	$ (6,373)	-21%

Laboratory supplies and services expense increased by $548,000 from $737,000 during the three months ended June 30, 2016 to $1,285,000 during the current period. Laboratory supplies and services expense increased by $2,014,000 from $2,072,000 during the nine months ended June 30, 2016 to $4,086,000 during the current period. The increase in laboratory supplies and services is a result of additional supply purchases necessary to support the expansion of the Company's preclinical pipeline as well as the development of the subcutaneous versions of its new drug candidates.

In vivo studies expense increased by $228,000 from $505,000 during the three months ended June 30, 2016 to $733,000 during the current period. In vivo studies expense increased by $546,000 from $1,221,000 during the nine months ended June 30, 2016 to $1,767,000 during the current period. In vivo expense can vary depending on the stage of preclinical candidates, the nature and amount of testing required and the cost variation of different in vivo testing models. The increase in in vivo studies in the current period is a result of additional discovery studies being conducted for the Company's subcutaneous candidates.

Outside labs and contract services expense increased by $97,000 from $46,000 during the three months ended June 30, 2016 to $143,000 during the current period. Outside labs and contract services expense increased by $299,000 from $116,000 during the nine months ended June 30, 2016 to $415,000 during the current period. The increase in outside labs and contract services in the current period is a result of additional discovery work being conducted for the Company's subcutaneous candidates.

Toxicity/efficacy studies expense decreased by $1,340,000 from $1,450,000 during the three months ended June 30, 2016 to $110,000 during the current period. Toxicity/efficacy studies expense decreased by $6,425,000 from $7,142,000 during the nine months ended June 30, 2016 to $717,000 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 decrease primarily relates to toxicology studies related to one of our discontinued drug candidates, ARC-521. We anticipate this expense to increase as we prepare to enter clinical trials with our new subcutaneous drug candidates.

Drug manufacturing expense increased by $606,000 from $2,529,000 during the three months ended June 30, 2016 to $3,135,000 during the current period. Drug manufacturing expense decreased by $2,036,000 from $7,849,000 during the nine months ended June 30, 2016 to $5,813,000 during the current period. The increase in the three month period is primarily due to the initiation of manufacturing campaigns for preclinical toxicology and future phase 1 clinical trials for our second-generation candidates ARO-HBV and ARO-AAT. The decrease in the nine month period is primarily due to the timing of manufacturing services that were completed in fiscal 2016 for our previous clinical candidates. We anticipate this expense to increase in the near term as our second-generation candidates progress toward the clinic.

Clinical trials expense decreased by $2,994,000 from $3,787,000 during the three months ended June 30, 2016 to $793,000 during the current period. Clinical trials expense decreased by $1,615,000 from $10,264,000 during the nine months ended June 30, 2016 to $8,649,000 during the current period. The decrease is primarily due to the discontinuation of our previous clinical candidates, and the close out of those studies. We anticipate this expense to remain low in the near term due to the discontinuation of our clinical candidates.

License, royalty and milestones expense decreased by $12,000 from $12,000 during the three months ended June 30, 2016 to $0 during the current period. License, royalty and milestones expense decreased by $44,000 from $44,000 during the nine months ended June 30, 2016 to $0 during the current period. 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. No significant milestones were achieved in either of the fiscal periods discussed above.

Facilities expense increased by $333,000 from $315,000 during the three months ended June 30, 2016 to $648,000 during the current period. Facilities expense increased by $834,000 from $927,000 during the nine months ended June 30, 2016 to $1,761,000 during the current period. The increase relates to increased rental costs for our new lease for a larger facility in Madison, Wisconsin, which we began occupying in October 2016.

Other research expense increased by $17,000 from $42,000 during the three months ended June 30, 2016 to $59,000 during the current period. Other research expense increased by $54,000 from $148,000 during the nine months ended June 30, 2016 to $202,000 during the current period. The increase primarily relates to additional miscellaneous supplies purchased to support efforts at our larger facility in Madison, Wisconsin.

Salaries – Three and nine months ended June 30, 2017 compared to the three and nine months ended June 30, 2016

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 details of salary and payroll-related expenses for the periods indicated:

(in thousands, except percentages)

	Three Months Ended June 30, 2017	% of Expense Category	Three Months Ended June 30, 2016	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
R&D - compensation-related	$ 2,440	71%	$ 3,101	75%	$ (661)	-21%
G&A - compensation-related	981	29%	1,012	25%	(31)	-3%
Total	$ 3,421	100%	$ 4,113	100%	$ (692)	-17%

	Nine Months Ended June 30, 2017	% of Expense Category	Nine Months Ended June 30, 2016	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
R&D - compensation-related	$ 8,244	73%	$ 9,179	75%	$ (935)	-10%
G&A - compensation-related	3,038	27%	3,103	25%	(65)	-2%
Total	$ 11,282	100%	$ 12,282	100%	$ (1,000)	-8%

R&D compensation expense decreased by $661,000 from $3,101,000 during the three months ended June 30, 2016 to $2,440,000 during the current period. R&D compensation expense decreased by $935,000 from $9,179,000 during the nine months ended June 30, 2016 to $8,244,000 during the current period. The decrease is primarily due to the reduction in force in November 2016.

G&A compensation expense decreased by $31,000 from $1,012,000 during the three months ended June 30, 2016 to $981,000 during the current period. G&A compensation expense decreased by $65,000 from $3,103,000 during the nine months ended June 30, 2016 to $3,038,000 during the current period. The decrease is primarily due to the reduction in force in November 2016.

General & Administrative Expenses – Three and nine months ended June 30, 2017 compared to the three and nine months ended June 30, 2016

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

(in thousands, except percentages)

	Three Months Ended June 30, 2017	% of Expense Category	Three Months Ended June 30, 2016	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
Professional/outside services	$ 861	47%	$ 879	39%	$ (18)	-2%
Patent expense	298	16%	540	24%	(242)	-45%
Facilities and related	83	5%	84	4%	(1)	-1%
Travel	215	12%	258	11%	(43)	-17%
Business insurance	170	9%	173	8%	(3)	-2%
Communication and Technology	80	4%	176	8%	(96)	-55%
Office expenses	123	7%	66	3%	57	86%
Other	23	1%	100	4%	(77)	-77%
Total	$ 1,853	100%	$ 2,276	100%	$ (423)	-19%

	Nine Months Ended June 30, 2017	% of Expense Category	Nine Months Ended June 30, 2016	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
Professional/outside services	$ 2,319	44%	$ 3,548	44%	$ (1,229)	-35%
Patent expense	859	16%	1,136	14%	(277)	-24%
Facilities and related	246	5%	240	3%	6	3%
Travel	557	10%	677	8%	(120)	-18%
Business insurance	454	9%	455	6%	(1)	0%
Communication and Technology	327	6%	458	6%	(131)	-29%
Office expenses	496	9%	227	3%	269	119%
Other	73	1%	1,305	16%	(1,232)	-94%
Total	$ 5,331	100%	$ 8,046	100%	$ (2,715)	-34%

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 $18,000 from $879,000 during the three months ended June 30, 2016 to $861,000 during the current period. Professional/outside services expense decreased by $1,229,000 from $3,548,000 during the nine months ended June 30, 2016 to $2,319,000 during the current period. The decrease primarily related to higher legal fees in the previous periods related to litigation cases.

Patent expense decreased by $242,000 from $540,000 during the three months ended June 30, 2016 to $298,000 during the current period. Patent expense decreased by $277,000 from $1,136,000 during the nine months ended June 30, 2016 to $859,000 during the current period. The Company continues to invest in patent protection for its product candidates and other RNAi technology through patent filings in numerous 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 $84,000 and $83,000 in the three months ended June 30, 2016 and 2017, respectively. Facilities-related expense remained consistent at $240,000 and $246,000 in the nine months ended June 30, 2016 and 2017, respectively. Facilities expense relates to recurring expenses associated with our corporate headquarters in Pasadena.

Travel expense decreased by $43,000 from $258,000 during the three months ended June 30, 2016 to $215,000 during the current period. Travel expense decreased by $120,000 from $677,000 during the nine months ended June 30, 2016 to $557,000 during the current period. Travel expense decreased due to the discontinuation of our clinical trials in November 2016 and a reduction in R&D headcount.

Business insurance expense was consistent at $173,000 and $170,000 during the three months ended June 30, 2016 and 2017, respectively. Business insurance expense was consistent at $455,000 and $454,000 during the nine months ended June 30, 2016 and 2017, respectively. Business insurance costs consist of directors and officers insurance, property insurance, corporate liability insurance as well as insurance related to our previous clinical programs.

Communication and technology decreased by $96,000 from $176,000 during the three months ended June 30, 2016 to $80,000 during the current period. Communication and technology decreased by $131,000 from $458,000 during the nine months ended June 30, 2016 to $327,000 during the current period. This category includes costs associated with the Company's IT infrastructure. The decrease was primarily due to several IT consulting projects completed during fiscal 2016.

Office expense increased by $57,000 from $66,000 during the three months ended June 30, 2016 to $123,000 during the current period. Office expense increased by $269,000 from $227,000 during the nine months ended June 30, 2016 to $496,000 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. The increase is primarily related to moving expenses for the Company's move to its new facility in Madison, Wisconsin.

Other expense decreased by $77,000 from $100,000 during the three months ended June 30, 2016 to $23,000 during the current period. Other expense decreased by $1,232,000 from $1,305,000 during the nine months ended June 30, 2016 to $73,000 during the current period. This category consists primarily of conference attendance fees, franchise and property tax expenses and marketing expenses. The decrease in other expense in the nine month period relates to litigation in the fiscal 2016 periods that was settled.

Stock-based compensation expense

Stock-based compensation expense, a noncash expense, was $1,713,228 and $5,881,901 during the three and nine months ended June 30, 2017, respectively. Stock-based compensation expense, a noncash expense, was $2,750,785 and $7,547,967 during the three and nine months ended June 30, 2016, 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. The decrease in the expense in each period is primarily related to the decrease in the Company's stock price, which is a key input in deriving the valuations of the awards.

Depreciation and amortization expense

Depreciation and amortization expense, a noncash expense, was $1,162,660 and $3,535,915 during the three and nine months ended June 30, 2017, respectively. Depreciation and amortization expense, a noncash expense, was $818,200 and $2,416,461 during the three and nine months ended June 30, 2016, 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 depreciation on leasehold improvements at the Company's new Madison research facility in the current period.

Other income / expense

Other income / expense was income of $194,423 and $3,097,287 during the three and nine months ended June 30, 2017, respectively. Other income / expense was expense of $79,256 and income of $446,595 during the three and nine months ended June 30, 2016, respectively. The primary component of other income during the nine months ended June 30, 2017 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. Additionally, the Company recorded $1.3 million in other income due to an insurance settlement related to one of the Company's recent litigation cases. The settlement amount was received in fiscal 2017.

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.

At June 30, 2017, the Company had cash on hand of approximately $38.4 million and short-term investments of $36.8 million as compared to cash on hand of $85.4 million and short-term investments of $0 million at September 30, 2016. 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 nine months ended June 30, 2017 and 2016 is as follows:

	Nine Months Ended June 30, 2017	Nine Months Ended June 30, 2016
Operating Activities	$ (14,735,498)	$ (54,246,107)
Investing Activities	(44,425,467)	15,160,252
Financing Activities	12,177,652	1,488,044
Net Increase (Decrease) in Cash	(46,983,313)	(37,597,811)
Cash at Beginning of Period	85,366,448	81,214,354
Cash at End of Period	$ 38,383,135	$ 43,616,543

During the nine months ended June 30, 2017, the Company used $14.7 million in cash from operating activities, primarily driven by $44.7 million of cash used for the on-going expenses of its research and development programs and general and administrative expenses, partially offset by the $30 million upfront payment received from Amgen. Cash used in investing activities was $44.4 million, which was primarily related to investments in short-term fixed-income securities of $39.9 million and $7.8 million of capital expenditures for leasehold improvements on the Company's Madison research facility and lab equipment purchases. Cash generated by financing activities of $12.2 million was driven by the $12.5 million equity investment received from Amgen, and was partially offset by cash paid for employee taxes on net share settlements of restricted stock units that vested during the period.

During the nine months ended June 30, 2016, the Company used $54.2 million in cash from operating activities, which represents the on-going expenses of its research and development programs and general and administrative expenses. Cash provided by investing activities was $15.2 million, which was primarily related to maturities on fixed income securities of $16.3 million and partially offset by capital expenditures of $1.1 million. Cash provided by financing activities of $1.5 million was primarily driven by cash received from the exercise of warrants and stock options of $2.3 million and partially offset by cash paid for employee taxes on net share settlements of restricted stock units that vested during the period of $0.6 million.

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, 2016, filed with the Securities and Exchange Commission on December 14, 2016.

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. Litigation can be expensive and disruptive to normal business operations. Moreover, the results of legal proceedings, particularly complex legal proceedings, cannot be predicted with any certainty. We disclosed information about certain of our legal proceedings in Part I, Item 3 of our Annual Report on Form 10-K for the year ended September 30, 2016. For an update to those disclosures, see Note 7 to the Consolidated Financial Statements under the heading “Litigation” in Part I, Item 1.

ITEM 1A. Risk Factors

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, 2016, 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.

Our Board of Directors has adopted a rights agreement and has the authority to issue shares of “blank check” preferred stock, which may make an acquisition of the Company by another company more difficult.

We have adopted and may in the future adopt certain measures that may have the effect of delaying, deferring or preventing a takeover or other change in control of the Company that a holder of our Common Stock might consider in its best interest. For example, on March 21, 2017, we entered into a rights agreement. The effect of this agreement could delay or prevent a third party from acquiring us or replacing members of our Board of Directors, or make more costly any attempt to acquire control of the Company, even if the acquisition or the Board designees would be beneficial to our stockholders. Further, our Board of Directors, without further action by our stockholders, currently has the authority to issue up to 5,000,000 shares of preferred stock and to fix the rights (including voting rights), preferences and privileges of these shares (“blank check” preferred). Such preferred stock may have rights, including economic rights, senior to our Common Stock. These factors could also reduce the price that certain investors might be willing to pay for shares of the common stock and result in the market price being lower than it would be without these provisions.

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

None.

ITEM 6. EXHIBITS

Exhibit Number	Document Description
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 June 30, 2017, 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: August 3, 2017

ARROWHEAD PHARMACEUTICALS, INC.

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

Exhibit 31.1

CERTIFICATION PURSUANT SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Pharmaceuticals, Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arrowhead Pharmaceuticals, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 3, 2017

/s/ CHRISTOPHER ANZALONE

Christopher Anzalone
Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Kenneth A. Myszkowski, Chief Financial Officer of Arrowhead Pharmaceuticals, Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arrowhead Pharmaceuticals, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 3, 2017

/s/ Kenneth A. Myszkowski

Kenneth A. Myszkowski,
Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Pharmaceuticals, Inc. (the "Company"), certify, pursuant to Rule 13(a)-14(b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Quarterly Report on Form 10-Q of the Company for the quarterly period ended June 30, 2017, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: August 3, 2017

/s/ CHRISTOPHER ANZALONE

Christopher Anzalone
Chief Executive Officer

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Pharmaceuticals, Inc. and will be retained by Arrowhead Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Kenneth A. Myszkowski, Chief Financial Officer of Arrowhead Pharmaceuticals, Inc. (the "Company"), certify, pursuant to Rule 13(a)-14(b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Quarterly Report on Form 10-Q of the Company for the quarterly period ended June 30, 2017 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: August 3, 2017

/s/ Kenneth A. Myszkowski

Kenneth A. Myszkowski
Chief Financial Officer

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Pharmaceuticals, Inc. and will be retained by Arrowhead Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.