

ARROWHEAD PHARMACEUTICALS, INC.

Form DEF 14A

January 25, 2019

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the

Securities Exchange Act of 1934

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

Preliminary Proxy Statement

Confidential, For Use of the Commission Only (as permitted by 14a-6(e)(2))

Definitive Proxy Statement

Definitive Additional Materials

Soliciting Material Pursuant To §240.14a-12

ARROWHEAD PHARMACEUTICALS, INC.

(Name of Registrant as Specified in Its Charter)

(Name of Person(s) Filing Proxy Statement if other than the Registrant)

Payment of filing fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

- (1) Title of each class of securities to which transaction applies:

- (2) Aggregate number of securities to which transaction applies:

- (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

- (4) Proposed maximum aggregate value of transaction:

- (5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

- (1) Amount Previously Paid:

- (2) Form, Schedule or Registration Statement No.:

- (3) Filing party:

- (4) Date filed:

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Notice of Annual Meeting of Stockholders

To Be Held on Thursday, March 14, 2019

Your vote is important, whether or not you expect to attend the Annual Meeting of Stockholders. Stockholders of record are urged to vote via the Internet or telephone as instructed, or if you are voting by mail, to mark, sign and date and promptly return the proxy in the postage-prepaid return envelope provided.

Voting promptly will help avoid the additional expense of further solicitation to assure a quorum at the meeting.

Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to be Held on Thursday, March 14, 2019:

You may access the following proxy materials at www.virtualshareholdermeeting.com/ARWR2019

Notice of the 2019 Annual Meeting of Stockholders;

TO THE STOCKHOLDERS OF ARROWHEAD PHARMACEUTICALS, INC.:

NOTICE IS HEREBY GIVEN that the 2019 Annual Meeting of Stockholders of Arrowhead Pharmaceuticals, Inc., a Delaware corporation (the Company), will be held on Thursday, March 14, 2019, at 10:00 a.m., Pacific time (the Annual Meeting). This year's meeting will be a completely virtual meeting of stockholders. You can attend the Annual Meeting online, vote your shares electronically, and submit your questions during the Annual Meeting by visiting www.virtualshareholdermeeting.com/ARWR2019. Prior to the Annual Meeting, you will be able to vote at www.proxyvote.com for the purpose of considering and voting upon the following proposals:

1. To elect the five directors named in the Proxy Statement to serve as members of the Company's Board of Directors until the next Annual Meeting or until their successors are elected;
2. To conduct an advisory (non-binding) vote to approve executive compensation;
3. To conduct an advisory (non-binding) vote on the frequency of future advisory votes on executive compensation; and
4. To ratify the selection of Rose, Snyder & Jacobs LLP as independent auditors of the Company for the fiscal year ending September 30, 2019;

Company's 2019 Proxy Statement;

Company's Annual Report on Form 10-K for the year ended September 30, 2018; and

Form of Proxy Card

The foregoing items of business are more fully described in the Proxy Statement accompanying this Notice. Proposal No. 1 relates solely to the election of the five directors nominated by the Board of Directors and does not include any other matters relating to the election of directors, including, without limitation, the election of directors nominated by any stockholder of the Company.

All stockholders of record are cordially invited to attend the Annual Meeting by visiting www.virtualshareholdermeeting.com/ARWR2019. We anticipate that on or about February 1, 2019, we will mail our stockholders a Notice Regarding the Availability of Proxy Materials (the "Notice of Internet Availability") containing instructions on how to access our 2019 Proxy Statement and 2018 Annual Report on Form 10-K and to vote online. You will need to have your 16-digit Control Number included on your Notice of Internet Availability or your proxy card (if you received a printed copy of the proxy materials) to join the Annual Meeting.

If you prefer to receive paper copies of our proxy materials, please follow the instructions included in the Notice of Internet Availability. To ensure your representation at the meeting, you are urged to vote via the Internet or telephone as instructed in the Notice of Internet Availability, or to mark, sign, date and return the proxy card as promptly as possible in the postage-prepaid envelope enclosed for that purpose. Any stockholder of record attending the Annual Meeting may vote at the Annual Meeting even if such stockholder has previously returned a proxy. Each stockholder may appoint only one proxy holder to attend the Annual Meeting on his or her behalf. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

/s/ Jane Davidson

Pasadena, California

Jane Davidson

January 25, 2019

Secretary

Arrowhead Pharmaceuticals, Inc. 225 South Lake Avenue, Suite 1050 Pasadena, California 91101

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2019 PROXY STATEMENT *General Information Concerning Solicitation and Voting*

ARROWHEAD PHARMACEUTICALS, INC.

225 South Lake Avenue, Suite 1050

Pasadena, California 91101

(626) 304-3400

PROXY STATEMENT

FOR ANNUAL MEETING OF STOCKHOLDERS

To be held on Thursday, March 14, 2019

General Information Concerning Solicitation and Voting

The enclosed Proxy is solicited on behalf of Arrowhead Pharmaceuticals, Inc. (the **Company** or **Arrowhead**) for use at the 2019 Annual Meeting of Stockholders (the **Annual Meeting**) to be held on Thursday, March 14, 2019 at 10:00 a.m., Pacific time, and at any adjournment(s) thereof, for the purposes set forth herein and in the accompanying Notice of Annual Meeting of Stockholders (the **Notice**). This year's meeting will be a completely virtual meeting of stockholders. You can attend the Annual Meeting online, vote your shares electronically, and submit your questions during the Annual Meeting, by visiting www.virtualshareholdermeeting.com/ARWR2019. You will need to have your 16-digit Control Number included on your Notice Regarding the Availability of Proxy Materials (the **Notice of Internet Availability**) or your proxy card (if you received a printed copy of the proxy materials) to join the Annual Meeting.

The Company anticipates that the Notice of Internet Availability in connection with these proxy solicitation materials will first be mailed on or about February 1, 2019 to all stockholders entitled to vote at the Annual Meeting and we will post our proxy materials on the website referenced in the Notice of Internet Availability. As more fully described in the Notice of Internet Availability, all stockholders may choose to access our proxy materials on the website referred to in the Notice of Internet Availability or may request to receive a printed set of our proxy materials.

Record Date

Only holders of record of our common stock at the close of business on January 23, 2019 (the **Record Date**) are entitled to notice of the Annual Meeting and to vote at the Annual Meeting. On that date, the Company had outstanding 94,200,893 shares of common stock (**Common Stock**).

Revocability of Proxies

Any proxy given by a stockholder of record pursuant to this solicitation may be revoked by the person giving it at any time before its use by delivering to the Secretary of the Company, at or before the taking of the vote at the Annual Meeting, a written notice of revocation or a duly executed proxy bearing a later date or by attending the Annual Meeting and voting in person. Stockholders may also revoke their proxy by entering a new vote over the Internet or by telephone.

Voting and Solicitation

Each share of the Company's Common Stock is entitled to one vote on all matters presented at the Annual Meeting. Each stockholder may appoint only one proxy holder or representative to attend the Annual Meeting on his or her behalf. Stockholders do not have the right to cumulate their votes in the election of directors. Shares of Common Stock represented by properly executed proxies will, unless such proxies have been previously revoked, be voted in accordance with the instructions indicated thereon. In the absence of specific instructions to the contrary, properly executed proxies will be voted FOR the Proposals 1, 2 and 4 and 1 Year on Proposal 3 and submitted to a vote of stockholders at the Annual Meeting pursuant to this proxy statement. No business other than that set forth in the accompanying Notice of Annual Meeting of Stockholders is expected to come before the Annual Meeting. Should any other matter requiring a vote of stockholders properly arise, the persons named in the enclosed form of proxy will vote such proxy in accordance with the recommendation of the Board of Directors (the **Board**).

If you will not be able to attend the Annual Meeting to vote in person, you may vote your shares via the Internet or by telephone or by mail as set forth in the Notice.

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2019 PROXY STATEMENT *General Information Concerning Solicitation and Voting*

The Company has engaged a proxy solicitor, Alliance Advisors, LLC, to encourage voting by our stockholders. It is estimated that the total cost for the solicitation campaign will be approximately \$10,000. Proxies may also be solicited by certain of the directors, officers and employees of the Company, without additional compensation. The Company will bear the costs of solicitation. In addition, the Company expects to reimburse brokerage firms and other persons representing beneficial owners of shares for their expenses in forwarding solicitation materials to such beneficial owners.

If your shares are held in street name, the voting instruction form sent to you by your broker, bank or other nominee should indicate whether the institution has a process for beneficial holders to provide voting instructions over the Internet or by telephone. If your bank or brokerage firm gives you this opportunity, the voting instructions from the bank or brokerage firm that accompany this proxy statement will tell you how to use the Internet or telephone to direct the vote of shares held in your account. If your voting instruction form does not include Internet or telephone information, please complete and return the voting instruction form in the self-addressed, postage-paid envelope provided by your broker. Stockholders who vote by proxy over the Internet or by telephone need not return a proxy card or voting instruction form by mail.

Quorum; Abstentions; Broker Non-Votes

The required quorum for the transaction of business at the Annual Meeting is a majority of the votes eligible to be cast by holders of shares of Common Stock issued and outstanding on the Record Date. Shares that are voted **FOR**, **AGAINST** or **ABSTAIN** on a matter are treated as being present at the meeting for purposes of establishing a quorum with respect to such matter. For certain proposals, brokers may not have discretionary authority to vote on a particular matter if they have not received specific instructions from the beneficial owner of the shares (**broker non-votes**). In accordance with the rules of Nasdaq, banks, brokerage firms and other nominees who hold Arrowhead shares in street name for their customers have authority to vote on routine proposals when they have not received instructions from beneficial owners. However, banks, brokerage firms and other nominees are precluded from exercising their voting discretion with respect to non-routine matters. Shares subject to a broker non-vote will be counted as present for the purpose of determining the presence or absence of a quorum for the transaction of business at the Annual Meeting; the effect of abstentions and broker non-votes on the proposals presented herein is discussed below.

With regard to the election of directors, votes may be cast in favor of a director nominee or withheld. Because directors are elected by plurality, abstentions from voting and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome. If a quorum is present at the meeting, the nominees receiving the greatest number of votes, up to five directors, will be elected. Because Proposal Nos. 2, 3 and 4 must be approved by the affirmative vote of a majority of the shares of Common Stock entitled to vote thereon and present in person or by proxy at the Annual Meeting (the **Required Vote**), abstentions will be counted in tabulations of the votes cast on each such proposal and will have the same effect as a vote against the proposal, whereas broker non-votes will be excluded from the vote and will have no effect on its outcome.

Deadline for Receipt of Stockholder Proposals

Any stockholder who meets the requirements of the proxy rules under the Securities Exchange Act of 1934, as amended (the **Exchange Act**), who intends to present a proposal at the Company's 2020 Annual Meeting of Stockholders must ensure that the proposal is received by the Corporate Secretary at Arrowhead Pharmaceuticals, Inc., 225 South Lake Avenue, Suite 1050, Pasadena, CA 91101, not later than October 4, 2019, in order to be considered for inclusion in our proxy materials for that meeting; provided, however, that if the Company's 2020 Annual Meeting of Stockholders is held before February 13, 2020 or after April 13, 2020, you must provide specified information to us a reasonable time before we begin to print and send our proxy statement for our 2020 Annual Meeting. Proposals received after the specified dates may be excluded from the Company's proxy statement.

Additionally, our Bylaws provide for notice procedures to recommend a person for nomination as a director or to propose business to be considered by stockholders at a meeting. To be considered timely under these provisions, the stockholder's notice must be received by the Corporate Secretary at our principal executive offices at the address set forth above between 90 and 120 days prior to the one-year anniversary of the date of the 2019 Annual Meeting; *provided, however*, that if the 2020 Annual Meeting date is advanced by more than 30 days before or delayed by more than 60 days after the anniversary date of the 2019 Annual Meeting, then stockholders must provide notice within time periods specified in our Bylaws. Our Bylaws also specify requirements as to the form and content of a stockholder's notice.

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The Board has nominated the following five persons as directors to serve until the 2020 Annual Meeting and until their successors have been duly elected. Each of the nominees is currently a director of Arrowhead. Except as set forth in the biographical information below, none of the nominees is related by blood, marriage or adoption to any other nominee or any executive officer of the Company. The five nominees receiving the greatest numbers of votes at the Annual Meeting will be elected to the five director positions. Unless otherwise instructed, the proxy holders will vote the proxies received by them for the five nominees named below. If any nominee is unable or declines to serve as director at the time of the Annual Meeting, the proxies will be voted for any nominee who is designated by our present Board to fill the vacancy. The table below sets forth, with respect to each nominee for election, his age and current position with Arrowhead.

Nominees for Election as Directors. The Board unanimously adopted a resolution proposing the nominees set forth below for election as Directors of the Company for the next year.

**OUR BOARD UNANIMOUSLY RECOMMENDS A
VOTE**

FOR EACH OF THE NOMINEES LISTED BELOW.

Douglass Given, MD*Chairman*

Age: 66

Experience and Expertise

Director since:
2010

Doug Given is Chairman of the Board. He has been a director of the Company since 2010. Doug is Managing Partner at Health2047 Capital Partners LLC. He served as Health2047 Inc.'s Chief Executive from its founding in August of 2015 until January 2018. Previously, Doug spent more than a decade in venture capital as an Investment Partner and General Partner at life sciences investor Bay City Capital LLC participating in five sequential life sciences general funds and two sector-specific funds; he was associated with the partnership from 1999-2015. A physician and medical scientist by background, Doug has been a global corporate and operating executive at Lilly, Monsanto, Schering Plough and Mallinckrodt and a serial entrepreneur, as well as a venture capitalist. In addition to a number of private companies, he led three public biotechnology and biopharmaceutical companies as CEO.

Serves on:

Science Committee

Doug has served on more than 20 public and private boards. He is currently a Director at Health2047 Inc., board Chair at Akiri Inc., Managing Partner at G5 Partners LLC, and serves on the board at First Mile Care Inc. and Vivaldi Biosciences Inc. He serves on advisory boards at the University of Chicago Medicine, Johns Hopkins Bloomberg School of Public Health, Stanford Medicine, Stanford Institute for Economic Policy Research (SIEPR), and The Houston Methodist Research Institute.

Qualifications

Dr. Given's qualifications to serve on the Board include his extensive experience as a physician scientist, in finance and business transactions, particularly investments in the life sciences industry, as well as directorship roles in biopharmaceutical companies. Dr. Given also has had significant leadership roles, including CEO of several biotech companies and Senior Vice President, at several large pharmaceutical companies.

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2019 PROXY STATEMENT *Proposal One Election of Directors*

Michael S. Perry, DVM

Independent Lead Director

Age: 59

Experience and Expertise

Director since: 2011

Serves on:

Audit Committee

Compensation Committee (Chair)

Nominating Committee (Chair)

Science Committee

Dr. Perry is currently the Chief Executive Officer and President of Avita Medical Ltd., a regenerative medicine company based in Valencia, CA (ASX: AVH and OTCQX: AVMXY) and Managing Director of Bioscience Managers, a global Venture Capital firm. From 2014 – 2017, Dr. Perry served as Chief Scientific Officer of Novartis Cell and Gene Therapy Unit, and from 2012 – 2014 he served as Vice President and Global Head of Stem Cell Therapy for Novartis Pharmaceuticals Corp, a US affiliate of Switzerland-based Novartis AG, a global pharmaceutical company. Dr. Perry has previously served as the Global Head of R&D at Baxter Healthcare, President and CEO of Cell & Gene Therapy at Novartis affiliates Systemix Inc. and Genetic Therapy, Inc., VP Regulatory Affairs at Sandoz Pharmaceuticals Corp. and Syntex Corp, Director of Regulatory Affairs at Schering-Plough Corporation, and Chairman, CEO or CMO at several early stage biotech companies. He also previously served as a Venture Partner with Bay City Capital, LLC, based in San Francisco, California. Dr. Perry holds a Doctor of Veterinary Medicine, a PhD in Biomedical Pharmacology, and a B.Sc. in Physics from the University of Guelph, Ontario, Canada. He is a graduate of the International Advanced Management Program at Harvard Business School.

Other Public Company Boards:

Avita Medical, Inc.

Amplphi Bioscience Corp.

Gamida Cell Ltd.

Qualifications

Dr. Perry’s qualifications to serve on the board include his medical expertise and his extensive experience in preclinical and clinical drug development, including executive level leadership roles and directorships in several publicly held biotech companies.

Christopher Anzalone, PhD

Chief Executive Officer, President & Director

Age: 49

Experience & Expertise

Director since: 2007

Dr. Anzalone has been President, Chief Executive Officer and Director of the Company since December 1, 2007 and has led the Company's business and technical development since then. Prior to joining Arrowhead, Dr. Anzalone formed and served as CEO of the Benet Group LLC, a private equity firm focused on creating and building new nano-biotechnology companies from university-generated science. Prior to his tenure at the Benet Group, from 1999 until 2003, he was a partner at the Washington, DC-based private equity firm Galway Partners, LLC, where he was responsible for sourcing, structuring and building new business ventures. Dr. Anzalone holds a Ph.D. in Biology from UCLA and a B.A. in Government from Lawrence University.

Qualifications

Dr. Anzalone's qualifications to serve on the Board include his deep understanding of the business through his role as Chief Executive Officer; in addition, Dr. Anzalone has extensive experience in business development, biotechnology, drug development, company-building and venture capital.

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2019 PROXY STATEMENT *Proposal One Election of Directors*

Mauro Ferrari, PhD

Independent Director

Age: 59

Experience & Expertise

Director since: 2010

Serves on:

Compensation Committee

Nominating Committee

Audit Committee

Science Committee (Chair)

Since 2010, Dr. Ferrari has been the President and CEO of The Houston Methodist Hospital Research Institute (TMHRI), Executive Vice President of Houston Methodist Hospital and Senior Associate Dean of Weill Cornell Medical College in New York. He is also the President of The Alliance for NanoHealth. Dr. Ferrari is an internationally recognized expert in nanomedicine and biomedical nanotechnology. Prior to assuming leadership of TMHRI, Dr. Ferrari was Professor and Chairman of The Department of NanoMedicine and Biomedical Engineering at The University of Texas Health Science Center at Houston, Professor of Experimental Therapeutics at the MD Anderson Cancer Center, Adjunct Professor of Bioengineering at Rice University and Adjunct Professor of Biomedical Engineering at the University of Texas in Austin. His previous academic appointments include tenured professorships at UC Berkeley and The Ohio State University.

Qualifications:

We believe Dr. Ferrari's qualifications to serve on the Board include his extensive training and experience in the fields of nanotechnology, biotechnology and biomedical applications. Dr. Ferrari has significant technical training, several academic appointments, over 300 published articles, over 30 issued patents and is the recipient of most prestigious academic awards in nanomedicine and drug delivery technology. Additionally, Dr. Ferrari has extensive experience in developmental stage organizations having founded several startup companies.

William Waddill

Independent Director

Age: 61

Experience & Expertise

Director since: January 2018

Serves on:

Audit Committee (Chair)

Compensation Committee

Nominating Committee

William Waddill began his career 30 years ago in commercial banking and public accounting and has been in the biotechnology industry for over 25 years. Since 2016, he has served on the board of Protagonist Therapeutics, a Newark, CA clinical stage biopharmaceutical company and most recently was Senior Vice President and CFO of Calithera Bioscience, a clinical stage pharmaceutical company from 2014 to 2016. Prior to Calithera, Mr. Waddill was Senior Vice President and CFO at OncoMed Pharmaceuticals from 2007 to 2014. Mr. Waddill served as the Senior Vice President and CFO of Ilypsa, Inc., a biotechnology company that was acquired in 2007 by Amgen, Inc. Before joining Ilypsa, he served as the founder and principal at Square One Finance, a financial consulting business, and Mr. Waddill served as Senior Director of Finance and Administration at Exelixis, Inc., a biotechnology company. Mr. Waddill received a BS in accounting from the University of Illinois, Chicago, and certification as a public accountant (inactive) after working at PriceWaterhouseCoopers and Deloitte in Boston.

Other Public Company Boards:

Protagonist Therapeutics, Inc.

Qualifications

Mr. Waddill's qualifications to serve on the Board include his extensive background in the biopharma industry, his financial expertise, executive leadership roles and experience as a director of other public companies.

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2019 PROXY STATEMENT *Proposal One Election of Directors*

Board Composition and Nominating Process

The Nominating Committee of the Board of Directors annually considers the size, composition and needs of the Board and, as appropriate, recommends the nominees for directors to the Board for approval. The Committee considers and evaluates suggestions from many sources regarding possible candidates for directors. Below are general criteria for the evaluation of current and proposed directors:

The highest ethical character and shared values with our Code of Corporate Conduct

Reputation, both personal and professional, consistent with our image and reputation

Accomplishment within candidate's field, with superior credentials and recognition

Relevant expertise and experience and the ability to offer advice and guidance to the CEO based on that expertise and experience

Independence, without the appearance of any conflict in serving as a Director, and independence of any particular constituency with the ability to represent all stockholders

Ability to exercise sound business judgment

Diversity, reflecting differences in skills, regional and industry experience, backgrounds, ages, and other unique characteristics, such as race, gender and ethnicity

Additionally, the Committee considers the mix of skills and experience among current and prospective directors with a goal of assembling a Board with complementary skills for the benefit of the Company. Listed below are the relevant contributions of each current board member.

Expertise	Given	Perry	Anzalone	Ferrari	Waddill
Biopharma Research & Development	X	X	X	X	

Healthcare X X X

Drug Development X X X X

Executive Leadership X X X X X

Public Company Governance X X X X

Accounting/Audit X

Venture Capital X X X X

Corporate Governance Policies and Practices

The following is a summary of our corporate governance policies and practices:

The positions of Chairman of the Board and Chief Executive Officer are separated, which allows our Chief Executive Officer to focus on strategic planning and execution as well as our day-to-day business operations, while allowing the Chairman of the Board to lead the Board in its fundamental role of providing advice to and oversight of management. While our Bylaws do not require that our Chairman and Chief Executive Officer positions be separate, our Board believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

A majority of the members of the Board are independent directors, as defined by Nasdaq Marketplace Rules. The Board has determined that all of the Company's directors are independent, except Dr. Anzalone, due to his employment relationship with the Company, and Dr. Given, who is the brother of Bruce Given, the Company's Chief Operating Officer. Non-employee directors do not receive consulting or other fees from the Company, other

than Board and Committee compensation.

The Board has appointed an independent Lead Director. The Lead Director is tasked with assuring that the Board committees and other relevant issues have independent leadership.

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2019 PROXY STATEMENT *Proposal One Election of Directors*

The Board has overall responsibility for the oversight of the Company's risk management process, which is designed to support the achievement of organizational objectives, including strategic objectives, to improve long-term organizational performance and enhance stockholder value. Risk management includes not only understanding company-specific risks and the steps management implements to manage those risks, but also what level of risk is acceptable and appropriate for the Company. Management is responsible for establishing our business strategy, identifying and assessing the related risks and implementing appropriate risk management practices. The Board regularly reviews our business strategy and management's assessment of the related risk and discusses with management the appropriate level of risk for the Company.

All the Company's employees, officers and directors are subject to the Company's Code of Business Conduct and Ethics Policy, which is available on the Company's website at www.arrowheadpharma.com. The ethics policy meets the requirements of Nasdaq Marketplace Rules, as well as the code of ethics requirements of the SEC.

The Audit, Compensation and Nominating Committees consist entirely of independent directors.

The independent directors meet separately in executive session on a regular basis to discuss matters relating to the Company and the Board, without members of the management team present.

The Board reviews at least annually the Company's business initiatives, capital projects and budget matters.

The Audit Committee reviews and approves all related-party transactions or, if the size and nature of the transaction warrants, a special committee of non-related Board members is formed to negotiate and approve the transaction.

Stockholder Communications with Directors

Stockholders who wish to communicate with the Board or any individual director can write to: Jane Davidson, Corporate Secretary, Arrowhead Pharmaceuticals, Inc., 225 South Lake Avenue, Suite 1050, Pasadena, CA 91101. Your letter should indicate that you are an Arrowhead stockholder. Depending on the subject matter, management will:

Forward the communication to the director or directors to whom it is addressed;

Forward the communication to the Chairman of the Board, if addressed to the board of directors; or

If not addressed to any director or directors, attempt to handle the inquiry directly (for example, requests for information or stock-related matters).

Board Meetings and Committees

The Board held a total of nine meetings during the fiscal year ended September 30, 2018. The Board has three standing committees: Audit Committee, Compensation Committee, and Nominating Committee.

The functions of the Audit Committee are to select independent public accountants, to review the scope and results of the year-end audit with management and the independent auditors, to review the Company's accounting principles and its system of internal accounting controls, to review the Company's annual and quarterly reports before filing with the Securities and Exchange Commission and to review any related-party transactions. The Audit Committee met four times during fiscal 2018. The current members of the Audit Committee are William Waddill, Chairman, Mauro Ferrari, and Michael S. Perry. The Board has determined that all members of the Audit Committee who served during 2018 were independent directors under the rules of the SEC and the listing standards of Nasdaq Marketplace Rules and are financially literate. The Board has determined that Mr. Waddill is an audit committee financial expert in accordance with the applicable regulations, based on his experience as noted above. The Audit Committee Charter is available on the Company's website at www.arrowheadpharma.com.

The functions of the Compensation Committee are to review the goals and achievements of the Company and the Chief Executive Officer for the prior year and approve the goals of the Company and the Chief Executive Officer for the next year, to review and approve salaries, bonuses, equity awards and other benefits payable to the Company's executive officers and to administer the Company's 2004 Equity Incentive Plan and 2013 Incentive Plan. The Compensation Committee is specifically responsible for determining the compensation of the Chief Executive Officer and the other executive officers. The Compensation Committee reviews compensation recommendations made by the Chief Executive Officer for other senior executives of the Company and the compensation of the Chief Executive Officer at least annually; the Chief Executive Officer is not present during discussions or deliberations regarding his compensation. In fiscal 2018, the Compensation Committee engaged Compensia, Inc., a compensation consulting firm, to provide advice and guidance with regard to compensation for our named executive officers. The decision to engage the consultant was not made or recommended by management and the Compensation Committee has the sole discretion to engage or change the consultant. The Compensation Committee met three times during fiscal 2018. The current members of the Compensation Committee are Michael S. Perry, Chairman, Mauro Ferrari and William Waddill. The Board has determined that all members of the Compensation Committee are independent

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2019 PROXY STATEMENT *Proposal One Election of Directors*

directors under the listing rules of Nasdaq Marketplace Rules. The Compensation Committee's charter is available on the Company's website at www.arrowheadpharma.com. The Compensation Committee has not delegated any of its responsibilities or authorities granted under its charter.

The Nominating Committee is responsible for proposing a slate of directors for election by the stockholders at each Annual Stockholders Meeting and for proposing candidates to fill any vacancies. The Nominating Committee met twice during fiscal 2018. The current members of the Nominating Committee are Michael S. Perry, Chairman, Mauro Ferrari and William Waddill. The Nominating Committee's charter is available on the Company's website at www.arrowheadpharma.com. The Nominating Committee manages the process for evaluating current Board members at the time they are considered for re-nomination. After considering the appropriate skills and characteristics required on the Board, the current makeup of the Board, the results of the evaluations and the wishes of the Board members to be re-nominated, the Nominating Committee recommends to the Board whether those individuals should be re-nominated.

On at least an annual basis, the Nominating Committee reviews with the Board whether it believes the Board would benefit from adding new members and, if so, the appropriate skills and characteristics required for any new members. If the Board determines that a new member would be beneficial, the Nominating Committee solicits and receives recommendations for candidates and manages the process for evaluating candidates. All potential candidates, regardless of their source, are reviewed under the same process. The Nominating Committee (or its chairman) screens the available information about the potential candidate(s). Based on the results of the initial screening, interviews with candidates are scheduled with Nominating Committee members, other members of the Board and senior members of management. Upon completion of these interviews and other due diligence, the Nominating Committee may nominate a candidate to the Board for election.

Candidates for independent Board member positions are identified through recommendations from directors or others associated with the Company, as well as through a formal search process managed by an executive recruiter. Arrowhead stockholders may also recommend candidates by sending the candidate's name and resume to the Nominating Committee pursuant to the procedures, set forth above, for communication with the Board. As described above, our Bylaws also provide for separate notice procedures to recommend a person for nomination as a director to be considered by stockholders at a meeting, including requirements as to the timing, form and content of a stockholder's notice.

The Nominating Committee has no predefined minimum criteria for selecting Board nominees, although it believes that all directors should share qualities such as governance and business experience at the corporate level, relevant non-competitive experience and strong communication and analytical skills. Independent directors must meet the criteria for independence set forth by Nasdaq and the SEC. In any given search, the Nominating Committee may also define particular characteristics for candidates to balance the overall skills and characteristics of the Board and the needs of the Company. During any search, the Nominating Committee reserves the right to modify its stated search criteria for exceptional candidates.

As part of the Nominating Committee's goal of building a diverse board, the Nominating Committee is committed to actively seeking out highly qualified diverse candidates (including women and minority candidates) to include in the pool from which Board nominees are chosen. The Nominating Committee assesses its effectiveness in achieving this goal as part of its annual assessment of the composition of the Board.

In 2018, the Board established an ad hoc Science Committee to review and advise on science topics of interest to the Company. The committee is chaired by Dr. Mauro Ferrari and Dr. Given and Dr. Perry serve as members of the committee.

No incumbent director attended fewer than 75% of the aggregate of (i) the total number of meetings of the Board held during fiscal 2018, and (ii) the total number of meetings held by all committees of the Board during fiscal 2018 on which such person served.

In addition, two of the directors attended the 2018 Annual Meeting of Stockholders. It is the Company's policy to encourage, but not require, that all directors attend our annual stockholder meetings.

Table of Contents**2019 PROXY STATEMENT** *Director Compensation***Director Compensation**

Directors who are also employees of the Company receive no separate compensation from the Company for their service as members of the Board. For 2019, the Company modified the structure of director compensation to provide a base retainer for each director with higher base retainers for service by the Chairman of the Board and the Lead Independent Director. The Company provides additional retainers for committee service with higher retainers for committee leadership. In prior years, director compensation consisted of a base retainer only with no allocation for committee services. The Compensation Committee made the change to further align compensation according to specific leadership and committee service contributions by each director. Year over year, total director compensation increased modestly in 2019 to reflect the increased demands and complexity as the Company adds to and advances our pipeline.

The below table sets forth compensation levels for each of our outside directors for calendar 2018 and 2019.

Name & Position	2019 Annual Fee (1)		2019 Grant Date Value	2018 Annual Fee (3)		2018 Grant Date Value
	(effective 1/1/19)	2019 Stock Award (2)		(effective 1/1/18)	2018 Stock Award (2)	
Douglass Given						
Chairman	\$ 80,000	36,000	\$ 447,120	\$ 78,750	30,000	\$ 110,400
Michael S. Perry						
Lead Director	\$ 80,000	36,000	\$ 447,120	\$ 68,250	30,000	\$ 110,400
Mauro Ferrari						
Director (4)	\$ 65,000	3,429	\$ 44,988	\$ 52,500	3,459	\$ 47,492
	\$ 70,000	30,000	\$ 372,600	\$ 52,500	25,000	\$ 92,000

William Waddill

Director

Ed Frykman

Director (5)	N/A	N/A	N/A	\$ 28,269	25,000	\$ 92,000
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(1) The annual fee for 2019 service is summarized as follows:

- a. Dr. Given will receive \$75,000 for his service as the Chairman of the Board, and \$5,000 for his service on the Board's Science Committee.
- b. Dr. Perry will receive \$50,000 for his service as the Lead Director, \$15,000 for his service as the Compensation Committee Chairman and a total of \$15,000 for his service on the Nominating, Science and Audit Committees.
- c. Dr. Ferrari is eligible to receive \$40,000 for his service as a Company director, \$10,000 for his service as the Science Committee Chairman, and \$15,000 for his service on the Nominating, Audit and Compensation Committees. His actual cash fee will likely be lower based on limitations imposed by his current employer.
- d. Mr. Waddill will receive \$40,000 for his service as a Company director, \$20,000 for his service as the Audit Committee Chairman, and a total of \$10,000 for his service on the Nominating and Compensation Committees.

(2) For services in 2019, each non-employee director received a grant of 30,000 restricted stock units (RSUs). Additional grants of 6,000 RSUs were awarded for the service of the Chairman and the Lead Director. RSU grants to non-employee directors vest on the one-year anniversary of the date of grant. In 2018, the grant for each director was 25,000 RSUs with additional grants of 5,000 RSUs for the service of the Chairman and the Lead Director.

(3) The annual fee for 2018 service as a Company director for 2018 was \$52,500. An additional fee of \$26,250 was paid for the service of the Chairman and an additional \$15,750 for the service of the Lead Director.

(4) Dr. Ferrari's stock awards in each period are lower than the other directors because his compensation has historically been limited based on the policies of his current employer.

(5) Mr. Frykman passed away in April 2018.

Table of Contents**2019 PROXY STATEMENT** *Director Compensation*

The following table sets forth the total compensation paid to our non-employee directors in fiscal 2018. Dr. Anzalone's compensation is set forth in the discussion of Executive Compensation and in the Summary Compensation Table.

Name	Fee Earned or Paid in Cash (\$)	Stock Awards (\$) (1) (2)	Total (\$)
Douglass Given	\$ 78,750	\$ 110,400	\$ 189,150
Michael S. Perry	\$ 68,250	\$ 110,400	\$ 178,650
Mauro Ferrari	\$ 52,500	\$ 47,492	\$ 99,992
William Waddill (3)	\$ 39,375	\$ 92,000	\$ 131,375
Edward Frykman (4)	\$ 28,269	\$ 92,000	\$ 120,269

(1) This column represents the total grant date fair value, computed in accordance with ASC 718, of restricted stock units granted during fiscal year 2018 for each director.

(2) The RSUs granted to non-employee directors vest one year from the date of grant.

(3) Mr. Waddill became a director effective 1/1/2018 and thus received three quarters of the annual fee for fiscal 2018.

(4) Mr. Frykman passed away in April 2018.

As of the last day of fiscal year 2018, the directors held the following outstanding stock option and restricted stock unit grants in the aggregate: Douglass Given 65,000 stock options and 30,000 restricted stock units; Michael S. Perry 77,000 stock options and 30,000 restricted stock units; Mauro Ferrari 25,469 stock options; William Waddill 25,000 restricted stock units; and Edward Frykman 76,500 stock options.

Vote Required; Recommendation of the Board

The five nominees receiving the greatest numbers of votes at the meeting, assuming a quorum is present, will be elected to the five director positions to serve until their terms expire or until their successors have been duly elected and qualified. Because directors are elected by plurality, abstentions from voting and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome.

**THE BOARD UNANIMOUSLY
RECOMMENDS A VOTE**

**FOR EACH OF THE NOMINEES FOR
DIRECTOR IN PROPOSAL ONE.**

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2019 PROXY STATEMENT *Proposal Two* *Advisory Vote to Approve Executive Compensation*

Proposal Two *Advisory Vote to Approve Executive Compensation*

The compensation paid to our Named Executive Officers (**NEOs**) is described below in the Compensation Discussion and Analysis of this proxy statement for the year ended September 30, 2018. The Board is asking stockholders to cast a non-binding, advisory vote FOR the following resolution:

RESOLVED, that the compensation paid to the Company's named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, as set forth in the compensation tables and narrative discussion, is hereby APPROVED.

Although the vote we are asking you to cast is non-binding, the Compensation Committee and the Board value the views of our stockholders and will consider the outcome of the vote when determining future compensation arrangements for our named executive officers.

The Board has adopted a policy providing for annual advisory votes to approve executive compensation. Unless the Board modifies its policy on the frequency of holding advisory votes to approve executive compensation, the next such advisory vote will occur in 2020.

Vote Required; Recommendation of the Board

Proposal Two must be approved by the Required Vote, assuming a quorum is present. For this purpose, abstentions will be counted as a vote against the proposal, while broker non-votes will have no effect on the outcome of the vote.

**THE BOARD UNANIMOUSLY
RECOMMENDS A VOTE**

FOR PROPOSAL TWO.

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2019 PROXY STATEMENT *Proposal Three Advisory Vote on Frequency of Executive Compensation Advisory Votes*

Proposal Three Advisory Vote on Frequency of Executive Compensation Advisory Votes

In Proposal 2, we are asking stockholders to cast an advisory vote to approve the compensation disclosed in this proxy statement that we paid in fiscal 2018 to our named executive officers. This advisory vote is referred to as a say-on-pay vote. In this Proposal 3, the Board is asking stockholders to cast a non-binding, advisory vote on how frequently we should have say-on-pay votes in the future. Stockholders will be able to mark the enclosed proxy card or voting instruction form on whether to hold say-on-pay votes every one, two or three years. Alternatively, you may indicate that you are abstaining from voting.

RESOLVED, that the stockholders of the Company recommend, in a non-binding vote, whether an advisory vote to approve the compensation of the Company's named executive officers should occur every one, two or three years.

This vote, like the say-on-pay vote itself, is not binding on the Board. Although the Board and the Compensation Committee recognize the potential benefits of having less frequent advisory votes to approve executive compensation (including allowing the Company additional time to effectively evaluate the relationship between the executive compensation and long-term Company performance and stockholder return), we recognize that the widely adopted standard is to hold Say on Pay votes annually. The Board and Compensation Committee also acknowledge current stockholder expectations regarding having the opportunity to express their views on the Company's executive compensation on an annual basis. In light of investor expectations and prevailing market practice, our Board and the Compensation Committee recommends that the advisory vote to approve executive compensation occur every year.

Proposal 3 must be approved by the Required Vote, assuming a quorum is present. For this purpose, abstentions will be counted as a vote against the proposal, while broker non-votes will have no effect on the outcome of the vote.

**THE BOARD UNANIMOUSLY
RECOMMENDS THAT STOCKHOLDERS
SELECT **EVERY YEAR** ON THE
PROPOSAL CONCERNING THE
FREQUENCY OF FUTURE ADVISORY
VOTES TO APPROVE EXECUTIVE
COMPENSATION.**

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2019 PROXY STATEMENT *Executive Compensation*

Executive Compensation

COMPENSATION DISCUSSION AND ANALYSIS

The following compensation discussion and analysis contains statements regarding future individual and Company performance targets and goals. These targets and goals are disclosed in the limited context of Arrowhead's compensation programs and should not be understood to be statements of management's expectations or guidance. Arrowhead cautions investors not to apply these statements to other contexts. Fiscal years are denoted as fiscal years, all other year references refer to calendar years.

This Compensation Discussion and Analysis describes the compensation program for our Named Executive Officers. During 2018, these individuals were:

Christopher Anzalone, our President and Chief Executive Officer (our CEO);

Bruce D. Given, our Chief Operating Officer (our COO);

Kenneth Myszkowski, our Chief Financial Officer (our CFO);

Patrick O'Brien, our General Counsel (our GC); and

Zhen Li, our Senior Vice President, Chemistry & Non-Clinical Development (our SVP).

This Compensation Discussion and Analysis describes the material elements of our executive compensation program during 2018. It also provides an overview of our executive compensation philosophy and objectives and summarizes our executive compensation policies and practices. Finally, it analyzes how and why the Compensation Committee of our Board of Directors (the Compensation Committee) arrived at the specific compensation decisions for our executive officers, including our Named Executive Officers for 2018 including the key factors that the Compensation Committee considered in determining their compensation.

Our Company

We develop medicines that treat intractable diseases by silencing the genes that cause them. Using a broad portfolio of RNA chemistries and efficient modes of delivery, our therapies trigger the RNA interference mechanism to induce rapid, deep and durable knockdown of target genes. RNA interference, or 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.

Arrowhead is focused on developing innovative drugs for diseases with a genetic basis, typically characterized by the overproduction of one or more proteins. The depth and versatility of our RNAi technologies enable us to potentially address conditions in virtually any therapeutic area and pursue disease targets that are not otherwise addressable by small molecules and biologics.

2018 Business Highlights

Commenced clinical studies for two internally developed therapeutics ARO-HBV for chronic hepatitis B and ARO-AAT for alpha-1 antitrypsin deficiency, filed CTAs for two additional therapeutics, ARO-ANG3 and ARO-APOC3 to commence clinical studies in early 2019;

Reported exciting initial clinical results for both ARO-HBV and ARO-AAT at internationally recognized scientific conferences;

Received \$10 million milestone from Amgen triggered by commencement of a Phase 1 study for AMG 890 (formerly known as ARO-LPA);

Entered into agreements with Janssen Pharmaceuticals and an affiliate for the further development of ARO-HBV with upfront payments and equity investments totaling \$250 million and potential milestone payments of \$3.5 billion plus royalties;

Ended calendar 2018 with \$304 million in cash and investments; and

Achieved 343% total stockholder return (TSR) in fiscal 2018.

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2019 PROXY STATEMENT *Executive Compensation*

Business Development

Amgen Inc.

Amgen Inc. acquired a worldwide, exclusive license in September 2016 to develop and commercialize ARO-LPA (now referred to as AMG 890). In August 2018, we received a \$10 million milestone payment from Amgen triggered by the start of an Amgen-sponsored Phase 1 clinical study designed to assess its safety in volunteers with elevated levels of lipoprotein (a) (Lp(a)). AMG 890 (ARO-LPA) is designed to reduce production of apolipoprotein A, a key component of lipoprotein(a), which has been genetically linked with increased risk of cardiovascular diseases, independent of cholesterol and LDL levels.

We are eligible to receive up to \$617 million in option payments and development, regulatory and sales milestone payments, as well as 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 (AMG 890) agreement. We received \$10 million of the total \$617 million in August 2018 as discussed above.

Janssen Pharmaceuticals, Inc.

In October 2018, we entered into a license agreement with Janssen Pharmaceuticals, Inc., part of the Janssen Pharmaceutical Companies of Johnson & Johnson, to develop and commercialize ARO-HBV. In addition, we entered into a research collaboration and option agreement with Janssen to potentially collaborate for up to three additional RNAi therapeutics against new targets to be selected by Janssen.

Under the terms of the license agreement, we received \$175 million as an upfront payment. Separately, Johnson & Johnson Innovation – JJDC, Inc. (JJDC) made a \$75 million equity investment in Arrowhead at a price of \$23.00 per share of Arrowhead common stock.

In addition, Arrowhead is eligible to receive up to approximately \$1.6 billion in milestone payments for the license agreement. Arrowhead is also eligible to receive approximately \$1.9 billion in option and milestone payments for the collaboration and option agreement related to up to three additional targets. Arrowhead is further eligible to receive tiered royalties up to mid teens under the license agreement and up to low teens under the collaboration and option agreement on product sales.

Platform

In 2018, we continued to develop and deploy our Targeted RNAi Molecule platform, or TRiM, to identify and develop new therapeutics. TRiM utilizes ligand-mediated delivery and is designed to enable tissue-specific targeting, while being structurally simple. The TRiM platform is designed to offer several potential competitive advantages including:

A more sophisticated RNAi trigger selection and screening process that identifies potent sequences rapidly in locations that RNAi competitors may miss;

Multiple routes of administration including subcutaneous, intravenous, and inhaled;

Faster time to clinical candidates;

Optimal pharmacologic activity and long duration-of-effect;

Potentially wide safety margins;

Simplified manufacturing at reduced cost;

And, the promise of taking RNAi to tissues beyond the liver.

Pipeline

We are focused on developing innovative drugs for diseases with a genetic basis, typically characterized by the overproduction of one or more proteins. The depth and versatility of our RNAi technologies enable us to address conditions in virtually any therapeutic area and pursue disease targets that are not otherwise addressable by small molecules and biologics.

The timing of our planned and already filed clinical trial applications (CTA) discussed below are based on calendar years, not fiscal years.

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2019 PROXY STATEMENT *Executive Compensation*

Clinical Stage Candidates

ARO-AAT is a clinical-stage RNAi therapeutic candidate for the treatment of liver disease associated with alpha-1 antitrypsin deficiency. ARO-AAT is designed to knock down the Alpha-1 antitrypsin (AAT) gene transcript and reduce the hepatic production of the mutant AAT protein. ARO-AAT is a next-generation subcutaneously administered compound that follows a previous generation AAT compound ARC-AAT.

2017: ARO-AAT nominated; CTA filed

2018: Clinical trial commenced. Initial results from AROAAT1001 were presented in November 2018 at The Liver Meeting®, the Annual Meeting of the American Association for the Study of Liver Disease (AASLD). Key data include:

Three monthly doses of 300 mg ARO-AAT led to reductions in serum alpha-1 antitrypsin to below the level of quantitation in 100% of subjects.

Reductions were sustained for greater than 14 weeks indicating that quarterly or less frequent dosing appears feasible.

Single and multiple doses of ARO-AAT appeared to be well-tolerated at all doses tested.

ARO-ANG3 is designed to reduce production of angiotensin-like protein 3 (ANGPTL3), a liver synthesized inhibitor of lipoprotein lipase and endothelial lipase. ANGPTL3 inhibition has been shown to lower serum LDL, serum and liver triglyceride and has genetic validation as a novel target for cardiovascular disease.

2017: Target identified

2018: Filed for regulatory clearance to begin a Phase 1 study of ARO-ANG3, an RNAi-based investigational medicine targeting angiotensin like protein 3 (ANGPTL3) being developed for the treatment of dyslipidemias and metabolic diseases.

ARO-APOC3 is designed to reduce production of Apolipoprotein C-III (apoC-III), a component of triglyceride rich lipoproteins (TRLs) including VLDL and chylomicrons and a key regulator of triglyceride metabolism. The company believes that knocking down the hepatic production of apoC-III may result in reduced VLDL synthesis and assembly, enhanced breakdown of TRLs, and better clearance of VLDL and chylomicron remnants.

2017: Target identified

2018: IND-enabling studies commence, CTA filed in early January 2019.

Partnered Programs

ARO-HBV is an RNAi therapeutic candidate for the treatment of chronic hepatitis B infection with the goal of achieving a functional cure. ARO-HBV is a next-generation subcutaneously administered compound that follows previous generation HBV compounds ARC-520 and ARC-521.

2017: ARO-HBV nominated; CTA filed.

2018: Clinical trial commenced. Clinical data presented at the World Gastroenterologists Summit and at the AASLD Liver Meeting® 2018 demonstrating:

Mean HBsAg reduction of -1.9 Log10 (-98.7%) with a range of -1.3 Log10 (-95.0%) to -3.8 Log10 (-99.98%).

ARO-HBV appeared to be well-tolerated at monthly doses up to 400 mg.

2018: Signed a license agreement with Janssen Pharmaceuticals, Inc., part of the Janssen Pharmaceuticals Companies of Johnson & Johnson, for ARO-HBV and a collaboration agreement for up to three RNAi therapeutic candidates that use our proprietary TRiM platform against new targets to be selected by Janssen.

The total potential deal value is approximately \$3.7 billion plus royalties on commercial sales.

Received \$175 million as an upfront payment and received \$75 million in the form of an equity investment by Johnson & Johnson Innovation JJDC, Inc., at a premium price of \$23.00 per share of Arrowhead common stock. **ARO-LPA (AMG 890)** is designed to reduce production of apolipoprotein A, a key component of lipoprotein(a), which has been genetically linked with increased risk of cardiovascular diseases, independent of cholesterol and LDL levels.

2016: Amgen, Inc. acquired a worldwide, exclusive license to develop and commercialize ARO-LPA (AMG 890).

2018: Amgen administers the first dose of AMG 890, formerly ARO-LPA, in a Phase 1 clinical study, which earned Arrowhead a \$10 million milestone payment.

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2019 PROXY STATEMENT *Executive Compensation*

ARO-AMG1 is being developed against an undisclosed genetically-validated cardiovascular target under a license and collaboration agreement with Amgen. We completed the Arrowhead Deliverable, as defined in our collaboration agreement with Amgen, during 2018.

Candidates in Development

ARO-ENaC is designed to reduce production of the epithelial sodium channel alpha subunit (aENaC) in the airways of the lung. In cystic fibrosis patients, increased ENaC activity contributes to airway dehydration and reduced mucociliary transport. A CTA is planned for 2019.

ARO-HIF2 is being developed for the treatment of clear cell renal cell carcinoma (ccRCC). ARO-HIF2 is designed to inhibit the production of HIF-2a, which has been linked to tumor progression and metastasis in ccRCC. Arrowhead believes it is an attractive target for intervention because over 90% of ccRCC tumors express a mutant form of the Von Hippel-Landau protein that is unable to degrade HIF-2a, leading to its accumulation during tumor hypoxia and promoting tumor growth. A CTA is planned for 2019.

Financial Results

Revenue Generated revenue of \$16.1 million, compared to revenues of \$31.4 million in fiscal 2017 and \$0.2 million in fiscal 2016;

Net Loss Recorded a net loss of \$54.5 million, compared to net losses of \$34.4 million in fiscal 2017 and \$81.7 million in fiscal 2016;

Net Loss Per Share Recorded a net loss per share (basic and diluted) of \$0.65, compared to net losses per share of \$0.47 in fiscal 2017 and \$1.34 in fiscal 2016.

Cash at end of fiscal 2018 Cash and investments of cash totaled \$76.5 million at September 30, 2018, and \$304 million as of December 31, 2018.

Total Stockholder Return 343% in fiscal 2018.

Executive Compensation Highlights

Based on our overall operating environment and these results, the Compensation Committee took the following key actions and maintained key policies with respect to the compensation of our Named Executive Officers for 2018:

Base Salary Approved base salary increases of 4-20% for our NEOs for 2018, including a 4% increase for our CEO.

Annual Incentive Compensation Approved annual cash bonuses for 2018 ranging from 100% to 150% of target annual incentive compensation opportunities, including an annual cash bonus for our CEO in the amount of \$975,000, equal to 150% of his target annual incentive compensation opportunity.

Equity Compensation Granted our CEO a long-term incentive compensation opportunity in the form of a performance-based restricted stock unit (PRSU) award with a grant date value of \$1,840,000 vesting upon the achievement of three equally weighted, pre-established and rigorous performance milestones and granted our other Named Executive Officers long-term incentive compensation opportunities in the form of time-based restricted stock unit (RSU) awards that may be settled for shares of our common stock with grant date values ranging from \$220,800 to \$644,000. A minimum three-year vesting is required for time-based equity awards granted to our other executive officers.

Clawback Policy Maintained a clawback policy allowing the Company to recover compensation from any executive officer should the Board of Directors determine that a material misstatement of the Company's financial statements was due to fraud, negligence, or intentional misconduct by any executive officer of the Company.

Ownership Guidelines Maintained the achievement of stock ownership guidelines of six times his annual base salary for our CEO and twice their annual base salary for our COO and CFO.

Double Trigger Feature for Acceleration of Equity Awards Maintained the agreements for outstanding equity awards granted to our CEO pursuant to our 2004 Equity Incentive Plan and 2013 Incentive Plan to provide that, upon a change in control of the Company, the vesting of such awards will accelerate only in the event of a subsequent involuntary termination of employment (a double-trigger arrangement).

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2019 PROXY STATEMENT *Executive Compensation*

Advisory Vote to Approve Named Executive Officer Compensation

At our 2018 Annual Meeting of Stockholders in March 2018, we conducted a non-binding stockholder advisory vote to approve the compensation of our Named Executive Officers (commonly known as a Say-on-Pay vote). Our stockholders approved the Say-on-Pay proposal with approximately 93% of the votes cast in favor of the proposal. Based on the vote and feedback from our stockholders, we attribute the increase in the votes cast in favor primarily to the following factors:

Adoption of 100% performance-based equity awards for our CEO which is preferred by stockholders and unusual in our peer group;

Adjustments in our compensation practices including adoption of minimum vesting requirements; compensation recovery (clawback) policy, double-trigger acceleration of equity awards for our CEO; and stock ownership guidelines for our CEO and CFO,

Achievement of aggressive corporate goals in 2017 and 2018; and

Substantial increases in market capitalization and TSR in 2017 and 2018.

In 2018, we continued our stockholder engagement program, reaching out to our top 20 institutional stockholders beneficially owning over 50% of our outstanding common stock to solicit their views and concerns and reviewed the feedback and policies of ISS. Based on this review, as well as our commitment to good corporate governance, the Compensation Committee continued the above mentioned practices for the executive compensation review in 2018.

Additionally, we received communications from California-based public pension funds on governance topics, including board diversity. In response, the Nominating Committee recommitted to including diverse candidates in future board searches and adopted corresponding changes to the Nominating Committee Charter available on the Company's website.

We value the opinions of our stockholders and will continue to consider the outcome of future Say-on-Pay votes, as well as feedback received throughout the year, when making compensation decisions for our executive officers. The Compensation Committee is committed to being responsive to stockholder feedback regarding our executive compensation program, policies, and practices, including concerns expressed through the Say-on-Pay vote.

Pay-for-Performance Analysis

We believe our executive compensation program is reasonable, competitive, and appropriately balances the goals of attracting, motivating, rewarding, and retaining our executive officers with the goal of aligning their interests with those of our stockholders. To ensure this alignment and to motivate and reward individual initiative and effort, a significant portion of our executive officers' target annual total direct compensation opportunity is both

performance-based and at-risk.

We emphasize performance-based compensation that appropriately rewards our executive officers, including our Named Executive Officers, through two separate compensation elements:

First, we provide the opportunity to participate in our annual incentive compensation plan which provides cash payments if they produce short-term financial, operational, and strategic results that meet or exceed the objectives set forth each year in our annual operating plan.

In addition, we grant equity awards as long-term incentive compensation. For our CEO in fiscal 2018, this awards is to be earned based entirely on the achievement of pre-established corporate performance objectives which are both challenging and designed to drive our financial and operational performance and long-term growth, and, in the case of our other executive officers, are either dependent on the future appreciation in value of our common stock or are subject to the risk of fluctuations in the value of our common stock and, therefore, are at risk.

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2019 PROXY STATEMENT *Executive Compensation*

The pay mix for our CEO for each of the last three fiscal years illustrates the ongoing emphasis on our performance-based compensation philosophy:

We believe that, ultimately, the creation of sustainable long-term stockholder value will depend on our ability to successfully bring to market the products we develop or partner with strategic collaborators to bring them to market. Consequently, the Compensation Committee strives to incent our executive officers to create that value through a robust and attractive pipeline of drug candidates. As a result, our executive compensation program is designed to provide incentives that facilitate these efforts. Particularly for our CEO, the Compensation Committee has awarded performance milestone-based equity awards directly linked to goals that promote the development of our pipeline and other related business and market-based objectives. The Compensation Committee closely tracks the progress against these objectives to monitor our success over each product's development period and evaluates our executive officers primarily on that progress.

To ensure that we remain faithful to our compensation philosophy, the Compensation Committee regularly evaluates the relationship between the reported values of the equity awards granted to our executive officers, the amount of compensation realizable (and, ultimately, realized) from such awards in subsequent years and our total stockholder return over this period.

Table of Contents**2019 PROXY STATEMENT** *Executive Compensation**Executive Compensation Policies and Practices*

We endeavor to maintain sound governance standards consistent with our executive compensation policies and practices. The Compensation Committee evaluates our executive compensation program on a regular basis to ensure that it is consistent with our short-term and long-term goals given the dynamic nature of our business and the market in which we compete for executive talent. The following summarizes our executive compensation and related policies and practices:

WHAT WE DO

Maintain an Independent Compensation Committee. The Compensation Committee consists solely of independent directors.

Retain an Independent Compensation Advisor. The Compensation Committee engaged its own compensation advisor to provide information and analysis with its 2018 compensation review, and other advice on executive compensation independent of management. This consultant performed no consulting or other services for us in 2018.

Annual Executive Compensation Review. The Compensation Committee conducts an annual review and approval of our compensation strategy, including a review and determination of our compensation peer group used for comparative purposes and a review of our compensation-related risk profile to ensure that our compensation programs do not encourage excessive or inappropriate risk-taking and that the level of risk that they do encourage is not reasonably likely to have a material adverse effect on us.

Compensation at-Risk. Our executive compensation program is designed so that a significant portion of compensation is at risk based on our performance, as

WHAT WE DON'T DO

× ***No Executive Retirement Plans.*** We do not offer pension arrangements or retirement plans or arrangements to our executive officers that are different from or in addition to those offered to our other employees.

× ***No Perquisites.*** Currently, we do not provide perquisites or other personal benefits to our executive officers.

× ***No Special Welfare or Health Benefits.*** Our executive officers participate in broad-based Company-sponsored health and welfare benefits programs on the same basis as our other full-time, salaried employees, except for a premium for life insurance for our CEO.

× ***Post-Employment Tax Payment Reimbursement.*** We do not provide any tax reimbursement payments (including gross-ups) on any severance or change-in-control payments or benefits.

× ***No Hedging and Limit on Pledging of Our Equity Securities.*** We prohibit our executive officers and the

well as short-term cash and long-term equity incentives to align the interests of our executive officers and stockholders.

Stock Ownership Policy. We maintain a stock ownership policy that requires our CEO, COO, and CFO to maintain a minimum ownership level of our common stock.

Compensation Recovery (Clawback) Policy. We have established a clawback policy allowing the Company to recover compensation should the Board determine that a material misstatement of the Company's financial statements was due to fraud, negligence, or intentional misconduct by any executive officer of the Company.

Conduct an Annual Stockholder Advisory Vote on NEO Compensation. We conduct an annual stockholder advisory vote on the compensation of our Named Executive Officers.

Use Pay-for-Performance Philosophy. The majority of our CEO's compensation is directly linked to corporate performance; we also structure target total direct compensation opportunities with a significant long-term equity component, thereby making a substantial portion of the CEO's and each additional executive officer's target total direct compensation dependent upon our stock price and/or total stockholder return.

Double Trigger Feature for Acceleration of CEO Equity Awards The outstanding equity awards granted to our CEO pursuant to our 2004 Equity Incentive Plan and 2013 Incentive Plan to provide that, upon a change in control of the Company, the vesting of such awards will accelerate only in the event of a subsequent involuntary termination of employment (a double-trigger arrangement).

non-employee members of our Board from hedging our equity securities. Executive officers may pledge up to 50% of owned and vested shares with the approval of the Board.

× ***No Dividends or Dividend Equivalents Payable on Unvested Equity Awards.*** We do not pay dividends or dividend equivalents on unvested RSU awards or PRSU awards.

× ***No Stock Option Re-pricing.*** Our employee stock plan does not permit options to purchase shares of our common stock to be repriced to a lower exercise or strike price without the approval of our stockholders.

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2019 PROXY STATEMENT *Executive Compensation*

Executive Compensation Philosophy

Our executive compensation philosophy reflects our two fundamental objectives:

to attract, motivate, and retain a highly skilled team of executives; and

to align our executive officers' interests with those of our stockholders by rewarding short-term and long-term performance and aligning compensation to increases in stockholder value.

We believe that the compensation of our executive officers should be directly linked to the achievement of specific objectives that are expected to increase stockholder value. In furtherance of this goal, the Compensation Committee has established the following guidelines as a foundation for compensation decisions:

provide a competitive total compensation package that enables us to attract, retain, and motivate highly-qualified executives with the skills and experience required for the achievement of business goals;

promote the achievement of key strategic and financial performance measures by linking short-term and long-term compensation to the achievement of measurable goals;

reward significant achievements outside of pre-established goals;

recognize that pharmaceutical research, development, and commercialization require sustained and focused effort over many years, and involve a high degree of risk and therefore balance incentives for short-term and long-term compensation;

employ outside compensation expertise and market data from industry peers to help assure that our compensation policies and practices are consistent with industry practice and meet our goals for our compensation program;

consider our cash resources and cost of capital to balance cash and equity compensation; and

align our executive officers' incentives with the creation of stockholder value.

Executive Compensation Program Design

Our practice is to combine a mixture of compensation elements that balance achievement of our short-term goals with our longer-term performance. Currently, our executive compensation program consists of three principal elements:

base salary;

an annual incentive compensation opportunity; and

long-term incentive compensation in the form of equity awards.

We believe that cash compensation in the form of base salary and an annual incentive compensation opportunity provides our executive officers with short-term rewards for success in operations, and that long-term incentive compensation in the form of RSU and PRSU awards that may be settled for shares of our common stock, and options to purchase shares of our common stock, align the objectives of our executive officers with those of our stockholders with respect to long-term performance and success.

The Compensation Committee takes into consideration, among other things, our financial and working capital condition when approving performance objectives and making compensation decisions for our executive officers. Since we seek to preserve cash and currently do not operate at a profit, overall target total direct compensation opportunities are weighted more heavily toward long-term incentive compensation in the form of equity awards. Thus, a significant portion of each executive officer's target total direct compensation is at risk, and dependent on the increase in the value of our common stock. The Compensation Committee periodically reassesses the appropriate weighting of cash and equity compensation.

In the case of long-term incentive compensation, typically the Compensation Committee designs these awards to vest, or be earned, over a multi-year period, meaning that long-term value creation, contrasted with short-term gain, presents the best opportunity for our executive officers to benefit from their awards.

We do not maintain a specific policy on the percentage allocation between short-term and long-term incentive compensation elements.

Governance of Executive Compensation Program

Role of the Compensation Committee

The Compensation Committee discharges many of the responsibilities of our Board relating to the compensation of our executive officers, including our Named Executive Officers, and the non-employee members of our Board. The Compensation

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2019 PROXY STATEMENT *Executive Compensation*

Committee has overall responsibility for overseeing our compensation and benefits philosophy and policies generally, overseeing and evaluating the compensation plans, policies, and practices applicable to our CEO and our other executive officers, and ensuring that the target total direct compensation opportunities of our executive officers, including our Named Executive Officers, are consistent with our compensation philosophy, policies, and objectives.

The members of the Compensation Committee are appointed by our Board, and each member is an independent director (as independence is currently defined in Rule 5605(a)(2) of the NASDAQ listing standards). Currently, the members of the Compensation Committee are Michael S. Perry (Chairman), Mauro Ferrari, and William Waddill.

The Compensation Committee reviews our executive compensation program annually on a calendar year basis, generally in December. The Compensation Committee draws on a number of resources to assist in the evaluation of the various components of our executive compensation program including, but not limited to, input from our CEO, the advice of an external compensation consultant (as identified below) retained by the Compensation Committee, information provided in the public filings of industry peers and industry data compiled yearly by Radford in its Global Life Sciences Survey, which represents a nationally-based assessment of executive compensation widely used within the pharmaceutical and biotechnology industry sectors.

The Compensation Committee relies upon the judgment of its members in making compensation decisions. In addition, the Compensation Committee incorporates judgment in the assessment process to respond to and adjust for the evolving business environment. The members of the Compensation Committee have extensive experience in executive management, as well as compensation practices and policies.

Compensation-Setting Process

The Compensation Committee develops recommendations for the target total direct compensation opportunities for our executive officers, including our Named Executive Officers. The Compensation Committee does not use a single method or measure in making its compensation decisions, nor does it position compensation levels based upon a specific or target level relative to a peer group or other companies. Nonetheless, the pay practices at other companies are an important factor that the Compensation Committee considers in assessing the reasonableness of compensation and ensuring that our compensation practices are competitive in the marketplace.

Generally, the Compensation Committee evaluates the compensation of our executive officers relative to the median of the competitive market. However, as discussed hereafter, various other factors are taken into consideration in determining our executive officers' compensation and the Compensation Committee does not target compensation at any specific level relative to the competitive market. When reviewing our current executive compensation arrangements and approving each compensation element and the target total direct compensation opportunity for our executive officers, the Compensation Committee considers the following factors:

Our performance against the financial and operational objectives established by the Compensation Committee and our Board;

Each individual executive officer's skills, experience, and qualifications relative to other similarly-situated executives at the companies in our compensation peer group;

The scope of each executive officer's role compared to other similarly-situated executives at the companies in our compensation peer group;

The performance of each individual executive officer, based on a subjective assessment of his or her contributions to our overall performance, ability to lead his or her business unit or function and work as part of a team, all of which reflect our core values;

The compensation practices of our compensation peer group and the positioning of each executive officer's compensation in a ranking of peer company compensation levels; and

The recommendations provided by our CEO with respect to the compensation of our other executive officers. These factors provide the framework for compensation decision-making and final decisions regarding the compensation opportunity for each executive officer. No single factor is determinative in setting pay levels, nor was the impact of any factor on the determination of pay levels quantifiable.

Role of Chief Executive Officer

In discharging its responsibilities, the Compensation Committee works with members of our management, including our CEO. Our management assists the Compensation Committee by providing information on corporate and individual performance,

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2019 PROXY STATEMENT *Executive Compensation*

market compensation data, and management's perspective on compensation matters. The Compensation Committee solicits and reviews our CEO's recommendations with respect to the compensation levels for individual executive officers other than himself based on the performance evaluation of each executive officer's manager and his own evaluation of the executive officer's performance.

The Compensation Committee reviews and discusses these recommendations and proposals with our CEO and considers them as one factor in formulating the recommendations for the compensation for our executive officers, including our other Named Executive Officers. Our CEO recuses himself from all discussions and recommendations regarding his own compensation.

Role of Compensation Consultant

The Compensation Committee engages an external compensation consultant to assist it by providing information, analysis, and other advice relating to our executive compensation program and the decisions resulting from its annual executive compensation review. The Compensation Committee has the final authority to engage and terminate the engagement of any compensation consultant that it retains.

For the period from October 2017 through September 2018, the Compensation Committee engaged Compensia, Inc., a national compensation consulting firm, as its external compensation consultant (Compensia). Compensia assisted the Compensation Committee in its review of executive and non-employee director compensation practices for 2018, including the competitiveness of compensation levels, executive compensation design, comparisons with our industry peers, and other technical considerations.

Review and update of our compensation peer group;

Review and analysis of the compensation arrangements for our executive officers, including our Named Executive Officers;

Review and analysis of the compensation arrangements for the non-employee members of our Board of Directors;

Review and update of the Compensation Discussion and Analysis section of our proxy statement for our 2019 Annual Meeting of Stockholders; and

Support on other *ad hoc* matters.

The terms of Compensia's engagement include reporting directly to the Compensation Committee and to the Compensation Committee chair.

In 2018, Compensia did not provide any other services to us. The Compensation Committee has evaluated Compensia's independence pursuant to the listing standards of the NASDAQ and the relevant SEC rules and has determined that no conflict of interest has arisen as a result of the work performed by Compensia.

Competitive Positioning

For each of the past five years, the Compensation Committee has directed its external compensation consultant to conduct a comparative study and report on compensation levels and practices relative to industry peers, including a competitive assessment of our executive compensation program as compared to the market data for base salaries, target total cash compensation, long-term incentive compensation, and target total direct compensation. Typically, the findings of this study are presented to the Compensation Committee by the compensation consultant in conjunction with the Compensation Committee's annual review of our executive compensation program.

Because the biotechnology sector is dynamic, the comparator group used by the Compensation Committee to assess the competitive positioning of the compensation of our executive officers is updated annually to ensure that peer companies continue to meet the established criteria. For purposes of its review of our executive compensation program in fiscal 2018, the Compensation Committee directed Compensia to update its compensation peer group reflecting the competitive market for executive talent based on the following criteria:

Publicly-held, pre-commercial U.S. biotechnology companies;

Companies with market capitalizations between 0.5x to 2.0x our market capitalization at the time of the peer selection; and

Companies with between 50 to 500 employees.

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2019 PROXY STATEMENT *Executive Compensation*

The compensation peer group was selected in such a manner that our market capitalization was very near the median for all peer companies. Consideration was also given to the frequency or infrequency with which a company was identified as a peer with other peer companies. The increase in the Company's market capitalization indicated significant redesign of the peer group for 2018.

For 2018, the compensation peer group consisted of the following companies:

Accelaron Pharma	Immunomedics
Assembly Biosciences	Mirati Therapeutics
Atara Biotherapeutics	MyoKardia
BioCryst Pharmaceuticals	Progenics Pharmaceutical
Blueprint Medicines	Rigel Pharmaceuticals
ChemoCentryx	Sangamo Therapeutics
Dicerna Pharmaceuticals	Xencor
Geron	Zogenix
Global Blood Therapeutics	

The compensation study prepared by Compensia and presented in December 2018 provided an assessment of our compensation practices as compared to industry peers. Compensation levels for our executive officers, in the aggregate, were determined to be within the range of compensation provided to similarly placed executives and consistent with our compensation philosophy.

Individual Compensation Elements

In 2018, the principal elements of our executive compensation program were as follows:

base salary;

an annual incentive compensation opportunity;

long-term incentive compensation in the form of equity awards;

welfare and health benefits; and

post-employment compensation arrangements.

Base Salary

Base salary represents the fixed portion of the compensation of our executive officers, including our Named Executive Officers, and is an important element of compensation intended to attract and retain highly-talented individuals.

The initial base salaries for our executive officers were negotiated on an individual basis at the time of hire. Thereafter, using the competitive market data provided by its compensation consultant, the Compensation Committee reviews and determines adjustments to the base salaries for each of our executive officers, including our Named Executive Officers, as part of its annual executive compensation review. In addition, the base salaries of our executive officers may be adjusted by the Compensation Committee in the event of a promotion or significant change in responsibilities. Generally, the Compensation Committee sets base salaries with reference to the competitive range of the market median of our compensation peer group and applicable executive compensation survey data, as well as its assessment of the factors described in [Governance of Executive Compensation Program Compensation-Setting Process](#) above.

In December 2017, consistent with the recommendation of our CEO, the Compensation Committee determined to increase the base salaries of our executive officers, including our Named Executive Officers. In making these decisions, the Compensation Committee considered the current risks and challenges facing us, as well as the factors described in [Governance of Executive Compensation Program Compensation-Setting Process](#) above. The increases for Kenneth Myszkowski and Zhen Li reflect market-based adjustments and increased leadership responsibilities, respectively.

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The base salaries of our Named Executive Officers for 2017 and 2018 were as follows:

Named Executive Officer	2018 Base Salary	2017 Base Salary	Percentage Adjustment
Christopher Anzalone President & CEO	\$ 650,000	\$ 622,050	4%
Bruce Given Chief Operating Officer	\$ 455,000	\$ 436,477	4%
Kenneth Myszkowski Chief Financial Officer	\$ 400,000	\$ 339,363	18%
Patrick O Brien General Counsel	\$ 410,000	\$ 394,784	4%
Zhen Li Senior Vice President Chemistry & Non-Clinical Development	\$ 300,000	\$ 249,850	20%

The actual base salaries paid to our Named Executive Officers in fiscal 2018 are set forth in the Fiscal 2018 Summary Compensation Table below.

Annual Incentive Compensation

We provide our executive officers, including our Named Executive Officers, with the opportunity to earn performance-based annual incentive awards, payable in cash, which are designed to reward them for our overall corporate performance as well as their individual performance. Generally, our executive officers are evaluated each year for eligibility to receive an annual incentive compensation opportunity. Through a collaborative planning process involving our Board of Directors and management, corporate performance objectives are established at the beginning of each year and evaluated regularly by our Board for their continued relevance to our status.

Target Annual Cash Bonus Opportunities

For purposes of the 2018 performance-based incentive awards, each of our Named Executive Officers was assigned a target annual incentive award opportunity based upon a percentage of his or her base salary. The target annual incentive award opportunities for our executive officers, including our Named Executive Officers, were recommended by our CEO (except with respect to his own target annual incentive award opportunity) based on each executive officer's accountability, scope of responsibilities, and potential impact on our performance, and approved by the Compensation Committee. The determination of target annual incentive award opportunities was based on the factors described in Governance of Executive Compensation Program Compensation-Setting Process above. Based on higher levels of control and accountability for our overall performance, a higher percentage of each executive officer's total target cash compensation was dependent on his or her performance-based annual incentive awards.

For 2018, the Compensation Committee increased the target annual incentive award opportunity for Kenneth Myszkowski and Patrick O'Brien. The increases reflected the increased leadership responsibilities for each position as the Company grows and market-based adjustments.

The target annual incentive award opportunities for our Named Executive Officers were as follows:

Named Executive Officer	2018 Target Annual Incentive Award Opportunity (as a percentage of base salary)	2017 Target Annual Incentive Award Opportunity (as a percentage of base salary)
Dr. Anzalone	100%	100%

Dr. Given

70%

70%

Mr. Myszkowski	45%	40%
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Mr. O'Brien	45%	40%
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Dr. Li	40%	40%
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Table of Contents**2019 PROXY STATEMENT** *Executive Compensation*

Potential annual incentive awards for our CEO could range from zero to 200% of his target annual incentive award opportunity. There is no set minimum or maximum for annual incentive awards for our other Named Executive Officers.

Performance Objectives

In determining the amount of the annual incentive award for each of our executive officers, including each of our Named Executive Officers, the Compensation Committee evaluated the corporate performance objectives that had been established at the beginning of the calendar year (as set forth below) as well as other corporate and individual achievements and performance throughout the year. These performance objectives addressed milestones for our lead products, research and development milestones for our drug pipeline and business development objectives. In December 2018, the Compensation Committee determined that we had largely achieved or exceeded our primary business objectives set for calendar 2018, as described below.

Goal	Achievement
<p>Corporate Development Weight: 30%</p> <p><i>Meet certain goals related to capital formation, market capitalization; board interface with scientific leaders</i></p>	<p>Met and Exceeded</p> <p>Raised over \$100 million in new capital through stock offerings.</p> <p>Ended year with a market capitalization of \$1.1 billion, an increase of \$874 million over 12/31/2017.</p> <p>Achieved 61% institutional ownership (stretch goal was 70% deemed achieved given substantial increase in ownership compared to previous year).</p> <p>Increased direct board interface with scientific leaders</p>

New Business Development Weight: 20%

Exceeded

Meet certain goals with regard to new pharma collaborations

The Company entered into a multibillion dollar license deal with Janssen Pharmaceuticals after interfacing with multiple potential partners for ARO-HBV.

Further business development goals were eliminated in favor of decision to focus internal development enabled by increased cash position and commercial potential of pipeline candidates.

Progress on existing Amgen collaboration Weight: 15%

Met

Meet certain requirements pursuant to Company's collaboration with Amgen

Triggered \$10 million milestone payment based on commencement of a clinical study of licensed product (AMG 890)

Met development criteria for ARO-AMG1

Clinical Development Weight: 20%

Met, including certain stretch goals

Meet certain goals with regard to progress on the Company's clinical programs

Completed enrollment in ARO-AAT single ascending dose and multiple ascending dose clinical studies.

Completed pre-IND meeting for follow-on clinical studies for ARO-AAT.

Complete ARO-AAT chronic toxicology studies.

Filed CTAs for ARO-ANG3 and ARO-APOC3
(ARO-APOC3 in early January 2019).

Non-Clinical Weight: 15%

Met, except certain stretch goals

Meet certain goals for Company's non-clinical programs

Good progress on Company's discovery and new target projects.

Table of Contents**2019 PROXY STATEMENT** *Executive Compensation***Annual Incentive Award Payments**

The actual annual incentive award payments earned by our Named Executive Officers ranged from 100% to 150% of their target annual incentive award opportunities. Except for the award for our CEO, these awards were recommended by our CEO and approved by the Compensation Committee based on the overall achievement of the Company's goals, their contributions to the goals, and the overall performance of each officer during the year. The following table sets forth the target annual incentive award opportunities, the actual award payment as a percentage of each Named Executive Officer's base salary, and the actual award payment made in cash to each of our Named Executive Officers based on their performance in 2018:

Named Executive Officer	Target Annual Incentive Award Opportunity (as a percentage of base salary)	Actual Annual Incentive Award (as a percentage of base salary)	Actual Annual Incentive Award (\$)
Dr. Anzalone	100%	150%	\$ 975,000
Dr. Given	70%	98%	\$ 445,900
Mr. Myszkowski	45%	45%	\$ 180,000
Mr. O'Brien	45%	45%	\$ 184,500
	40%	50%	\$ 150,000

Dr. Li

The annual incentive award payments made to our Named Executive Officers for fiscal 2018 are set forth in the Fiscal 2018 Summary Compensation Table below.

Long-Term Incentive Compensation

We view long-term incentive compensation in the form of equity awards as a critical element of our executive compensation program. The realizable value of these equity awards over time bears a direct relationship to our stock price, and, therefore, these awards are an incentive for our executive officers, including our Named Executive Officers, to create value for our stockholders. Equity awards also help us retain qualified executive officers in a competitive market.

Long-term incentive compensation opportunities in the form of equity awards are granted to our executive officers by the Compensation Committee. The amount and forms of such equity awards are determined by the Compensation Committee after considering the factors described in Governance of Executive Compensation Program Compensation-Setting Process above.

2018 Long-Term Incentive Awards

Performance-Based RSU Award for Chief Executive Officer

Annual equity awards granted to our executive officers are solely in the form of restricted stock unit (RSU) awards that may be settled for shares of our common stock. In the case of our CEO, the award is entirely performance-based (PRSU). On January 1, 2018, Dr. Anzalone was granted a performance-based RSU (PRSU) of 500,000 shares to be vested in three equal installments on the achievement of the following milestones:

Achieve market capitalization of \$600 million and hold for 6 consecutive weeks

Execute a business development transaction for a target outside hepatocytes

Initiate a study that could be pivotal or meet criteria that big pharma would consider to be proof of concept
The milestones must be achieved by January 1, 2020 or the grants will expire.

Table of Contents**2019 PROXY STATEMENT** *Executive Compensation***Results from PRSU Awards Previously Granted**

In 2018, the Compensation Committee certified achievement of the performance milestones and the vesting of the following PRSUs.

Performance Goal	Achievement	No. of Shares Certified as Vested
Achieve \$1 billion market capitalization and hold for 2 quarters <i>Granted 1/1/2016</i>	Achieved on 12/18/2018	180,000 shares pursuant to a PRSU award
File an IND or equivalent for an extra-hepatic target <i>Granted 1/1/2016</i>	The Compensation Committee deemed this completed on 12/11/2018, given that the Company could have filed an IND for an extra-hepatic target, but chose to delay this filing for strategic purposes	180,000 shares pursuant to a PRSU award
Execute a significant business development transaction by 12/31/2019 <i>Granted 4/12/2017</i>	Janssen collaboration	163,000 shares pursuant to a PRSU award

Trigger a milestone payment pursuant to the Amgen agreements Achieved on 8/31/2018 163,000 shares pursuant to a PRSU award

Granted 4/12/2017

Hold Market Cap of \$600 million for 6 weeks Achieved on 8/31/2018 166,667 shares pursuant to a PRSU award

Granted 1/1/2018

Equity Awards for Other Named Executive Officers

The Compensation Committee approved the following aggregate equity awards for our Named Executive Officers for 2018:

Named Executive Officer	Restricted Stock Unit Awards (number of shares)	Restricted Stock Unit Awards (\$)	
Mr. Given	175,000	\$	644,000
Mr. Myszkowski	75,000	\$	276,000
Mr. O'Brien	60,000	\$	220,800
Dr. Li	65,000	\$	239,200

The awards vest over 4 years in 4 equal installments.

The equity awards granted to our Named Executive Officers in fiscal 2018 are set forth in the Fiscal 2018 Summary Compensation Table and the Fiscal 2018 Grants of Plan-Based Awards Table below.

Welfare and Health Benefits

Our executive officers, including our Named Executive Officers, are eligible to participate in all of our employee benefit plans, including medical, dental, vision, life, and disability insurance, in each case on the same basis as our other employees, subject to applicable law. In addition, we provide additional life insurance for our CEO for the benefit of his heirs. We also provide vacation and other paid holidays to all our employees, including our executive officers, all of which we believe to be comparable to those provided at peer companies. These benefit programs are designed to enable us to attract and retain our workforce in a competitive marketplace. Our health, welfare, and vacation benefits are designed to ensure that we have a productive and focused workforce through reliable and competitive health and other benefits.

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2019 PROXY STATEMENT *Executive Compensation*

Our retirement savings plan (401(k) plan) is a tax-qualified retirement savings plan, pursuant to which qualified employees, including our Named Executive Officers, are able to contribute certain amounts of their annual compensation, subject to limits prescribed by the Internal Revenue Service. Historically, we have made matching contributions of 100% of the first 3% of base salary and of 50% of the next 2% of base salary contributed to the plan. The value of these benefits for each of our Named Executive Officers is reflected in the All Other Compensation column of the Summary Compensation Table below.

Perquisites and Other Personal Benefits

Currently, we do not view perquisites or other personal benefits as a significant component of our executive compensation program. Accordingly, we do not provide significant perquisites or other personal benefits to our executive officers, including our Named Executive Officers, except as generally made available to our employees, or in situations where we believe it is appropriate to assist an individual in the performance of his or her duties, to make our executive officers more efficient and effective and for recruitment and retention purposes.

In the future, we may provide perquisites or other personal benefits in limited circumstances, such as those described in the preceding paragraph. All future practices with respect to perquisites or other personal benefits will be approved and subject to periodic review by the Compensation Committee.

Employment Arrangements

We have entered into a written employment agreement with our CEO and have written employment offer letters with our other executive officers. In filling each of our executive positions, we recognized the need to develop competitive compensation packages to attract qualified candidates in a dynamic labor market. At the same time, in formulating these compensation packages, we were sensitive to the need to integrate new executive officers into the executive compensation structure that we were seeking to develop, balancing both competitive and internal equity considerations. Each of these arrangements provides for at will employment.

For detailed descriptions of the employment arrangements we maintained with our Named Executive Officers for 2018, see Termination Benefits Potential Payments Upon Termination or Change in Control below.

Post-Employment Compensation Arrangements

We have entered into an employment agreement with our CEO, and we also have agreements with our CFO and General Counsel that provide for certain payments and benefits in the event of certain involuntary terminations of employment. We believe that having in place reasonable and competitive post-employment compensation arrangements are essential to attracting and retaining highly-qualified executive officers. These agreements are designed to provide reasonable compensation to executive officers who leave our employ under certain circumstances to facilitate their transition to new employment. Further, in some instances we seek to mitigate any potential employer liability and avoid future disputes or litigation by requiring a departing executive officer to sign a separation and release agreement acceptable to us as a condition to receiving post-employment compensation payments or benefits.

The Compensation Committee does not consider the specific amounts payable under these agreements when establishing annual compensation. We do believe, however, that these arrangements are necessary to offer

compensation packages that are competitive.

In addition, our 2013 Incentive Plan provides for the acceleration of vesting of outstanding and unvested equity awards in the event of a change in control of the Company, as defined in the plan, except as otherwise determined by our Board. The Company has amended the agreements for outstanding equity awards granted to our CEO pursuant to our 2004 Equity Incentive Plan and 2013 Incentive Plan to provide that, upon a change in control of the Company, the vesting of such awards will accelerate only in the event of a subsequent involuntary termination of employment (a double-trigger arrangement).

For detailed descriptions of the post-employment compensation arrangements we maintained with our Named Executive Officers for 2018, as well as an estimate of the potential payments and benefits payable under these arrangements, see [Termination Benefits](#) [Potential Payments Upon Termination or Change in Control](#) below.

Other Compensation Policies and Practices

Equity Awards Grant Policy

We do not have any program, plan, or obligation that requires us to grant equity awards on specified dates, although historically we have granted such awards to our existing executive officers and employees at least annually and to newly-hired employees on the commencement of their employment. We do not have any program, plan, or practice to grant options to

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2019 PROXY STATEMENT *Executive Compensation*

purchase shares of our common stock to our executive officers in coordination with the release of material nonpublic information. Equity awards may occasionally be granted following a significant change in job responsibilities or to meet other special retention or performance objectives.

Authority to grant equity awards to our employees rests with the Compensation Committee, although the Compensation Committee has delegated authority to our CEO to grant equity awards to non-executive employees within prescribed limits set by the Compensation Committee. With respect to our executive officers, except for our CEO, recommendations for equity awards are made by our CEO and reviewed and approved by the Compensation Committee.

Under the terms of our 2013 Incentive Plan, pursuant to which new equity awards are granted, the exercise price of any option to purchase shares of our common stock awarded under the plan must be equal to at least 100% of the fair market value of our common stock (which is determined based on the closing sales price of our common stock on the NASDAQ Global Market) on the date of grant.

Stock Ownership Policy

We maintain a stock ownership policy for our CEO, COO, and CFO to further align their respective interests with the interests of our stockholders, and to further promote our commitment to sound corporate governance. This policy requires our CEO to own a minimum number of shares of our common stock equal to a value of six times his annualized base salary and our COO and CFO to own a minimum number of shares of our common stock equal to a value of twice their annualized base salary. Each of these executive officers has achieved the required ownership.

Compensation Recovery (Clawback) Policy

In December 2017, our Board adopted a compensation recovery (clawback) policy as follows:

If Arrowhead Pharmaceuticals, Inc. (the Company) is required to materially restate any of its financial statements, the Board of Directors (the Board) shall assess the degree to which any fraud, negligence, or intentional misconduct by any executive officer of the Company was responsible for such restatement. If the Board determines that any executive officer was responsible for causing such restatement, the Board shall, in addition to any other lawful remedies the Board or the Company may take, seek recovery of all or a portion of the incentive compensation awarded to the executive officer for the performance period covered by the restated financial statement, provided that such recovery shall not extend to payments made more than three years prior to the date the financial record was restated. In addition, the Board may, in its absolute discretion, revoke any of the responsible executive officer's unpaid or unvested incentive compensation outstanding as of the date of the Board's determination of the executive officer's responsibility for the financial restatement.

In addition, our 2013 Incentive Plan provides for the recovery of awards made under the plan in accordance with any applicable compensation recovery or recoupment policy, including as required by law, regulation, or national securities exchange rule.

Policy Prohibiting Hedging and Pledging

Our Insider Trading Policy prohibits our employees, including our executive officers, and the non-employee members of our Board from short-term trading, options trading, trading on margin, pledging our common stock as collateral, and all hedging transactions with respect to our securities, except for pledging up to 50% owned and vested stock as collateral for a loan subject to the approval of the Board.

Tax and Accounting Considerations

Deductibility of Executive Compensation

Prior to the US Tax Cuts and Jobs Act enacted in December of 2017 (the **US Tax Act**), compensation that satisfied conditions set forth under Section 162(m) of the Internal Revenue Code to qualify as performance-based compensation was not subject to a \$1 million limit on deductibility, and the limit did not apply to compensation paid to the Chief Financial Officer. The US Tax Act eliminates the performance-based compensation exception and applies the limit to the Chief Financial Officer and certain former executive officers. However, it provides a transition rule with respect to remuneration provided under a written contract which was in effect on November 2, 2017 and which was not materially modified after that date. With eliminating the exemption for performance-based compensation, we expect that we will be unable to deduct all compensation in excess of \$1 million paid to our Chief Executive Officer, Chief Financial Officer and our other Named Executive Officers covered by the new tax law, other than previously granted awards that comply with the transition rules. We monitor the application of Section 162(m) and the associated Treasury regulations on an ongoing basis and the advisability of qualifying

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2019 PROXY STATEMENT *Executive Compensation*

executive compensation for deductibility. Notwithstanding the repeal of the exemption for performance-based compensation, the Compensation Committee intends to maintain its commitment to structuring the Company's executive compensation programs in a manner designed to align pay with performance.

Accounting for Stock-Based Compensation

We follow the Financial Accounting Standard Board's Accounting Standards Codification Topic 718 (FASB ASC Topic 718) for our stock-based compensation awards. FASB ASC Topic 718 requires us to measure the compensation expense for all share-based payment awards made to our employees and non-employee members of our Board, including options to purchase shares of our common stock and other stock awards, based on the grant date fair value of these awards. This calculation is performed for accounting purposes and reported in the executive compensation tables required by the federal securities laws, even though the recipient of the awards may never realize any value from their awards.

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2019 PROXY STATEMENT *Executive Compensation*

Compensation Risk Assessment

In reviewing our various compensation programs, the Compensation Committee considers how our compensation policies and practices may affect our risk profile and whether such policies and practices may encourage undue risk-taking by our employees. More specifically, the Compensation Committee considers the general design philosophy of our policies and practices for our employees whose conduct would be most affected by incentives established pursuant to these compensation policies. In considering these issues, the Compensation Committee concluded that the use of a performance-based annual incentive compensation plan and long-term incentive compensation opportunities in the form of equity awards did not appear to create undue risks for us or encourage excessive risk-taking behavior on the part of our Named Executive Officers.

With respect to the annual incentive awards for our executive officers, the amount of an individual's award depends principally on overall Company performance, as determined by the Compensation Committee, which reduces the ability and incentive for an individual to take undue risks at the expense of our performance in an effort to increase the amount of his or her annual incentive award. Our performance objectives are reviewed regularly by the Compensation Committee and our Board and are considered to be generally of the nature that promote the steady progression of our development programs and would not encourage or reward excessive risk-taking. In addition, our Board has the ability to intervene in instances where actions by our executive officers vis-à-vis Company performance objective attainment would be considered unduly risky to prevent or penalize such actions.

Compensation Committee Report

The Compensation Committee of the Company has reviewed and discussed with management the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K. Based on this review and discussion, the Compensation Committee recommended to the Board that the foregoing Compensation Discussion and Analysis be included in this proxy statement.

Submitted by the Compensation

Committee of the Board of Directors

Michael S. Perry, Chairman

Mauro Ferrari

William Waddill

Table of Contents**2019 PROXY STATEMENT** *Executive Compensation**Compensation Committee Interlocks and Insider Participation*

During 2018, Dr. Perry, Dr. Ferrari, Mr. Waddill and Mr. Frykman served on the Compensation Committee. During fiscal year 2018 and through December 2018, there were no compensation committee interlocks between the Company and other entities involving the Company's executive officers and directors.

Summary Compensation Table

The following table summarizes compensation earned for services rendered during fiscal 2018, 2017, and 2016 by our Chief Executive Officer, our Chief Financial Officer, our Chief Operating Officer, our General Counsel and our Senior Vice President of Chemistry and Non-Clinical Development, collectively our Named Executive Officers :

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (1) (\$)	Option Awards (1) (\$)	Non-Equity Incentive Plan Compensation (2)	All Other Compensation (3)	Total
						(\$)**	(\$)	
	2018	643,012		(4)		975,000	1,889	1,619,901
Christopher Anzalone	2017	616,068		537,900(5)		715,357	1,889	1,871,214
President and Chief Executive Officer	2016	592,373		(6)	368,797	448,594	1,889	1,411,653
	2018	384,841		276,000		180,000	12,177	853,018
Kenneth Myszkowski	2017	336,099		224,750		152,713	11,809	725,371
Chief Financial Officer	2016	321,692		307,500	184,383	130,524	12,431	956,530
	2018	450,362		644,000		445,900	11,799	1,552,061

Bruce D. Given							
	2017	432,250	589,000		351,340	11,599	1,384,189
Chief Operating Officer	2016	415,625	922,500	276,575	251,796	11,399	1,877,895
	2018	406,196	220,800		184,500	11,799	823,295
Patrick O Brien							
General Counsel	2017	390,988	224,750		177,653	11,599	804,990
	2016	375,949		276,575	170,820	11,399	834,743
	2018	287,462	239,200		150,000	9,462	686,124
Zhen Li							
Senior Vice President, Chemistry and Non-Clinical Development	2017	247,448	131,750		120,000	6,798	505,996
	2016	237,930		230,479	72,072	10,173	550,654

- (1) These columns represent the total grant date fair value, computed in accordance with ASC 718, of stock options and restricted stock units granted during fiscal year 2018, 2017 and 2016. The assumptions used to calculate the value of the stock underlying the option and restricted stock unit awards are set forth in Note 8 of the Notes to the Consolidated Financial Statements included with the Company's Annual Report on Form 10-K.
- (2) These bonus amounts represent the amounts earned for performance under the Company's Annual Bonus Incentive Plan during calendar year 2018, 2017 and 2016 and paid in fiscal year 2019, 2018 and 2017, respectively. The Annual Bonuses are described in more detail in the Bonus Incentive section.
- (3) Amounts consist of 401(k) matching contribution, as well as life insurance premiums for the benefit of each executive officer.
- (4) The amounts reported for Christopher Anzalone in the Stock Awards column reflect the grant date fair value of a January 2018 restricted stock unit award that is subject to vesting upon the achievement of specific performance conditions, as described above in the Compensation Discussion and Analysis. We determined the performance conditions that were probable and not probable of being achieved as of the grant date, as defined under applicable accounting guidance, and assigned a grant date fair value of \$0 based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance conditions would be achieved, we would have assigned a grant date fair value of \$1,840,000 for the restricted stock units. The amounts reported in the Summary Compensation Table for these awards may not represent the amounts that Christopher Anzalone will

realize from the awards. Whether, and to what extent, a named executive officer realizes value will depend on our actual operating performance, stock price fluctuations and the named executive officer's continued employment.

- (5) The amounts reported for Christopher Anzalone in the Stock Awards column reflect the grant date fair value of an April 2017 restricted stock unit award that is subject to vesting upon the achievement of specific performance conditions. We determined the performance conditions that were probable and not probable of being achieved as of the grant date, as defined under applicable accounting guidance, and assigned a grant date fair value of \$537,900 based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance conditions would be achieved, we would have assigned a grant date fair value of \$1,613,700 for the restricted stock units. The amounts reported in the Summary Compensation Table for these awards may not represent the amounts

Table of Contents**2019 PROXY STATEMENT** *Executive Compensation*

that Christopher Anzalone will realize from the awards. Whether, and to what extent, a named executive officer realizes value will depend on our actual operating performance, stock price fluctuations and the named executive officer's continued employment.

- (6) The amount reported for Christopher Anzalone in the Stock Awards column reflects the grant date fair value of a January 2016 restricted stock unit award that is subject to vesting upon the achievement of specific performance-based conditions. We determined the performance conditions were not probable of being achieved as of the grant date, as defined under applicable accounting guidance, and assigned a grant date fair value of \$0 based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance-based conditions would be achieved, we would have assigned a grant date fair value of \$3,321,000 for the restricted stock units. The amount reported in the Summary Compensation Table for this award may not represent the amount that Christopher Anzalone will realize from the award. Whether, and to what extent, a named executive officer realizes value will depend on our actual operating performance, stock price fluctuations and the named executive officer's continued employment.

Grants of Plan Based Awards Table

The following table sets forth cash bonus and equity grants made to the named executive officers in fiscal 2018:

Name	Grant Date	Estimated					Grant Date Fair Value
		Estimated Future Payouts Under Non-Equity Incentive Plan Awards (1)		Estimated Future Payouts Under Equity Incentive Plan Awards (2)	All Other Stock Awards: Number of Shares of Stock or Units (#) (3)		
		Minimum Target	Maximum	Target			
Christopher Anzalone							
Cash Bonus		\$ 650,000	\$ 1,300,000				

PRSU _s (4)	1/1/2018	166,667
PRSU _s (4)	1/1/2018	166,667
PRSU _s (4)	1/1/2018	166,666

Kenneth Myszkowski

Cash Bonus \$ 180,000 N/A

RSUs 1/1/2018 75,000 \$ 276,000

Bruce D. Given

Cash Bonus \$ 318,500 N/A

RSUs 1/1/2018 175,000 \$ 644,000

Patrick O Brien

Cash Bonus		\$ 184,500	N/A
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RSUs	1/1/2018		60,000	\$ 220,800
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Zhen Li

Cash Bonus		\$ 120,000	N/A
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RSUs	1/1/2018		65,000	\$ 239,200
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(1) Amounts listed represent cash award targets for our named executive officers in 2018. Actual payments were made in fiscal 2019 and the amounts are reported in the Summary Compensation Table above.

(2) These RSU and PRSU are described above in the Compensation Discussion and Analysis under the heading Equity Compensation .

(3) RSUs have various vesting parameters. The RSUs granted in 2018 vest in four equal annual installments beginning 1 year from the grant date.

(4) We determined that as of the date of the grant it was not probable as defined under applicable accounting guidance that any of the performance vesting conditions for these PRSU awards would be achieved and assigned a grant date fair value of \$0 based on this evaluation.

Table of Contents**2019 PROXY STATEMENT** *Executive Compensation***Outstanding Equity Awards at Fiscal Year End Table**

The following table provides information, with respect to the Named Executive Officers, concerning the outstanding equity awards covering shares of the Company's common stock as of September 30, 2018.

Name	Grant Date	Option Awards			Stock Awards		
		Number of Securities Underlying Unexercised Options (#) (1)	Exercise Price (\$)	Option Expiration Date	Market Value of Shares or Units of Stock That Have Not Vested (\$)	Equity Incentive Plan Awards: Number of Shares or Units of Stock That Have Not Vested (#)	Equity Incentive Plan Awards: Value of Unearned Shares or Units of Stock That Have Not Vested (\$)
Christopher Anzalone	10/8/2009	112,650		10/8/2019			
	3/4/2010	56,325		3/4/2020			
	8/16/2010	50,000		3/16/2020			
	10/21/2011	15,000		10/21/2021			
	2/16/2012	170,000		2/16/2022			
	9/28/2012	50,000		9/28/2022			
	5/6/2013	200,000		5/6/2023			
	9/21/2013	69,991		9/21/2023			
	2/6/2014	60,000		2/6/2024			
	3/6/2015	300,000		3/6/2025			
	1/1/2016	53,333	26,667	6.15	1/1/2026		

1/1/2016					360,000	6,901,200
4/12/2017					163,000	3,124,710
1/1/2018					333,333	6,389,994

Kenneth Myszkowski

3/4/2010	8,000		5.20	3/4/2020		
8/16/2010	12,000		9.90	3/16/2020		
10/21/2011	15,000		4.60	10/21/2021		
2/16/2012	68,000		5.19	2/16/2022		
2/6/2014	50,000		14.54	2/6/2024		
3/6/2015	43,750	6,250	7.75	3/6/2025		
1/1/2016	26,666	13,334	6.15	1/1/2026		
1/1/2016					16,667	319,506
1/1/2017					145,000	2,779,650
1/1/2018					75,000	1,437,750

Bruce D. Given

9/28/2009	1,000		6.20	9/28/2019		
10/26/2011	30,000		5.20	10/26/2021		
2/16/2012	110,000		5.19	2/16/2022		
9/28/2012	35,000		2.62	9/28/2022		
5/6/2013	170,000		2.01	5/6/2023		
9/21/2013	40,000		4.75	9/21/2023		
2/6/2014	50,000		14.54	2/6/2024		
3/6/2015	52,500	7,500	7.75	3/6/2025		
1/1/2016	40,000	20,000	6.15	1/1/2026		
1/1/2016					50,000	958,500
1/1/2017					380,000	7,284,600
1/1/2018					175,000	3,354,750

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2019 PROXY STATEMENT *Executive Compensation*

Name	Grant Date	Option Awards			Stock Awards		
		Number of Securities Underlying Unexercised Options (#) (1)	Number of Unexercised Securities Options (#) (2)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#) (3)	Value of Unearned Shares or Units of Stock That Have Not Vested (\$)
Patrick O Brien	12/2/2014	84,375	5,625	5.22	12/2/2024		
	1/1/2016	40,000	20,000	6.15	1/1/2026		
	1/1/2017					145,000	2,779,650
	1/1/2018					60,000	1,150,200
Zhen Li	3/27/2014	60,000		16.33	3/27/2024		
	12/10/2014	43,750	3,750	5.45	12/10/2024		
	1/1/2016	33,333	16,667	6.15	1/1/2026		
	1/1/2017					85,000	1,629,450
	1/1/2018					65,000	1,246,050

(1)

Options are priced at the market closing price on the date of grant. Options have various vesting parameters, but generally vest within 48 months after the award is granted.

(2) The amounts reported for Christopher Anzalone in this column reflect the January 2016, April 2017, and January 2018 awards that contain performance-based vesting conditions. These awards and their vesting conditions are described above in the Compensation Discussion and Analysis under the heading Equity Compensation .

(3) Restricted stock units have various vesting parameters but generally vest in four equal annual installments beginning 1 year from the grant date.

(4) Value is based on the Company's Common Stock closing price of \$19.17 on September 30, 2018.

Options Exercised and Stock Vested Table

The following table provides information, with respect to the Named Executive Officers, concerning options exercised or RSUs or PRSUs vested during fiscal 2018.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise	Value Realized on Exercise (1)	Number of Shares Acquired on Vesting	Value Realized on Vesting (2)
Christopher Anzalone			981,667	\$ 9,578,525
Kenneth Myszkowski	99,000	1,195,360	33,333	\$ 172,330
Bruce D. Given			100,000	\$ 517,000
Patrick O'Brien			10,000	\$ 34,900

Zhen Li

(1) Value is calculated as the price of the Company's Common Stock upon exercise, less the exercise price, multiplied by the number of shares exercised.

(2) Value is calculated as the price of the Company's Common Stock upon vesting, multiplied by the number of shares vested.

Termination Benefits Potential Payments Upon Termination or Change in Control

The Company has the following severance or change of control arrangements with its Named Executive Officers:

Dr. Anzalone's employment agreement with the Company provides that, if the Company terminates Dr. Anzalone's employment without Cause or if Dr. Anzalone terminates his employment for Good Reason, on his date of termination, Dr. Anzalone will receive a one-time lump sum payment equal to the sum of: (i) one month of base salary and (ii) premiums for thirty (30) days of medical and dental benefits. To receive such payments Dr. Anzalone is required to execute a general release in favor of the Company.

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2019 PROXY STATEMENT *Executive Compensation*

For purposes of Dr. Anzalone's employment agreement:

Cause means (i) the conviction (by trial or upon a plea of nolo contendere) of a felony or other crime involving moral turpitude or the commission of any other material act or omission involving dishonesty, disloyalty or fraud with respect to the Company or any of its subsidiaries or any of their customers or suppliers, (ii) reporting to work under the influence of alcohol or illegal drugs, the use of illegal drugs (whether or not at the workplace) or other repeated conduct causing the Company or any of its subsidiaries substantial public disgrace or disrepute or economic harm, (iii) the engaging of gross misconduct and the failure to cease such conduct and rectify any harm to the Company resulting therefrom within 30 days after written demand therefor by the Company identifying with reasonable particularity such conduct and harm, or (iv) any other material breach of the employment agreement by Executive and the failure to cease such breach and rectify any harm to the Company within 30 days after written demand by the Company identifying with reasonable particularity such breach and harm; and

Good Reason means (i) Executive's duties, responsibilities, titles or offices are diminished as compared to those described in the employment agreement without Executive's written consent, and the Company fails to reinstate such duties, responsibilities, titles or offices within 30 days after written demand by Executive identifying with reasonable particularity the diminishment, (ii) the relocation of Executive's base office to an office that is more than thirty (30) highway miles from Pasadena, CA, (iii) the failure of the Company to obtain a satisfactory agreement from any successor to assume and agree to perform the obligations under the employment agreement and (iv) any other material breach of this employment agreement by the Company and the failure to cease such breach and rectify any harm to Executive resulting within 30 days after written demand by Executive identifying with reasonable particularity the breach and harm.

Pursuant to his offer of employment by the Company, Mr. Myszkowski is entitled to severance pay equal to three months' base salary plus an amount equal to the premiums on his medical and dental benefits for the same period upon termination of his employment without cause.

Pursuant to his offer of employment by the Company, Mr. O'Brien is entitled to severance pay equal to six months' base salary upon a qualifying termination of his employment without cause only upon change of control as defined in the Company's 2013 Incentive Plan.

The Company has not entered into a severance arrangement with Dr. Given or Dr. Li.

Additionally, pursuant to the 2004 Equity Incentive Plan and the 2013 Incentive Plan, any unvested awards held by plan participants, including the Named Executive Officers, become fully vested upon a change of control, except as otherwise determined by the Board and except with respect to the outstanding awards held by the CEO whose awards will only become fully vested upon a qualifying termination of employment following a change of control.

Table of Contents**2019 PROXY STATEMENT** *Executive Compensation*

The following tables set forth information regarding potential termination and change of control arrangements with our executive officers had their employment been terminated or a change in control of the Company taken place on September 30, 2018:

Termination Payments

Triggering Event	Salary (\$)	Benefits (\$)	Stock Awards (1)(\$)	Option Awards (1)(\$)	Total
Termination by Employer without Cause					
Christopher Anzalone (2)	54,167	1,697			55,864
Kenneth Myszkowski	100,000	6,849			106,849
Bruce D. Given					
Patrick O'Brien					
Zhen Li					
Change in Control					
Christopher Anzalone					
Kenneth Myszkowski	100,000	6,849	4,536,906	244,984	4,888,739
Bruce D. Given			11,597,850	346,050	11,943,900
Patrick O'Brien			3,929,850	338,869	4,268,719
Zhen Li			2,875,500	268,454	3,143,954
Involuntary Termination Following a Change in Control					
Patrick O'Brien	205,000				205,000
Christopher Anzalone	54,167	1,697	16,415,904	347,204	16,818,972

(1) For stock awards the value is calculated as the number of unvested shares multiplied by the Company's closing stock price at September 30, 2018 of \$19.17. For option awards the value is calculated as the number of shares issuable upon unvested options multiplied by the difference between the Company's closing stock price at September 30, 2017 of \$19.17 less the applicable exercise price.

(2) Dr. Anzalone's employment contract also provides for payment of the values set forth above upon his resignation for good reason as defined in his employment agreement.

CEO Pay Ratio

Pursuant to Item 402(u) of Regulation S-K, we are required to calculate and disclose the median annual compensation of all of our employees (excluding our CEO, Dr. Anzalone), the annual compensation of Dr. Anzalone, and the ratio of these two amounts.

Our median employee was identified using the entire population of our employees as of September 30, 2018 based on a consistently applied compensation measure, or CACM, that reasonably reflects the annual compensation of employees. The CACM selected by us for our disclosure included annual base salary, overtime for the year-to-date period ended September 30, 2018, the cash bonus amount for fiscal 2018, the grant-date fair value for stock-based awards (calculated in accordance with requirements for the Summary Compensation Table), and welfare and health benefits for fiscal 2018.

Based on the CACM methodology described above, we identified the median employee and calculated the 2018 compensation for this selected employee in the same manner we determine the annual total compensation of our NEOs for purposes of the Summary Compensation Table. The median employee total compensation is \$134,747. Dr. Anzalone's 2018 compensation as disclosed in the Summary Compensation Table is \$1,619,901. As a result, our CEO to median employee pay ratio for 2018 is 12:1.

This pay ratio is a reasonable estimate calculated by a method consistent with the SEC requirements, described above, based on our payroll and employment records. As a result of a variety of factors, including employee populations, potential differences in the components used for the CACM, compensation philosophies and certain assumptions, pay ratios reported by other companies may not be comparable to our pay ratio. The pay ratio is not utilized by our management or our compensation committee for compensation-related decisions.

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2019 PROXY STATEMENT *Proposal Four Ratification of Appointment of Independent Auditors*

Proposal Four Ratification of Appointment of Independent Auditors

Our Audit Committee, with the ratification of our Board, selected the accounting firm of Rose, Snyder & Jacobs, LLP (**RS&J**) as the Company's independent auditors for the fiscal year ending September 30, 2019, and that selection is now being submitted to the stockholders.

A representative of RS&J will be available at the Annual Meeting to respond to appropriate questions or make any other statements such representative deems appropriate.

Stockholders are not required to ratify the appointment of RS&J as our independent auditor. However, we are submitting the appointment for ratification as a matter of good corporate practice. If stockholders fail to ratify the appointment, the Audit Committee will consider whether or not to retain RS&J. Even if the appointment is ratified, the Audit Committee may direct the appointment of a different independent auditor at any time during the year if it determines that such a change would be in the best interests of the Company and our stockholders.

Vote Required; Recommendation of the Board

In order to be ratified, Proposal Four must be approved by a majority of Required Vote, assuming a quorum is present. For this purpose, abstentions will be counted as a vote against the proposal.

**THE BOARD UNANIMOUSLY
RECOMMENDS A VOTE **FOR** PROPOSAL
FOUR.**

Table of Contents**2019 PROXY STATEMENT** *Audit Fees***Audit Fees**

The Audit Committee regularly reviews and determines whether specific projects or expenditures with our independent auditors, Rose, Snyder & Jacobs, LLP may potentially affect their independence. The Audit Committee's policy is to pre-approve all audit and permissible non-audit services provided by RS&J. Pre-approval is generally provided by the Audit Committee for up to one year, detailed to the particular service or category of services to be rendered and is generally subject to a specific budget. The Audit Committee may also pre-approve additional services of specific engagements on a case-by-case basis. All engagements of our independent registered public accounting firm in 2018 and 2017 were pre-approved by the audit committee.

The following table sets forth the aggregate fees invoiced by RS&J for the fiscal years ended September 30, 2018 and September 30, 2017:

	Year Ended September 30,	
	2018	2017
Audit fees (1)	\$ 194,000	\$ 195,000
Audit-related fees (2)	59,500	13,500
Tax Fees		
All other fees		
Total	\$ 253,500	