

Use these links to rapidly review the document

[TABLE OF CONTENTS](#)

[Table of Contents](#)

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

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 Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material under §240.14a-12

RHYTHM 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:

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 - (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):

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 - (3) Filing Party:

 - (4) Date Filed:



Rhythm Pharmaceuticals, Inc.

222 Berkeley Street, 12th Floor
Boston, MA 02116

April 29, 2020

Dear Stockholder:

On behalf of the Board of Directors of Rhythm Pharmaceuticals, Inc. (the "Company", "we" or "Rhythm"), I invite you to attend the Annual Meeting of Stockholders (the "Annual Meeting") that will be held on Wednesday, June 17, 2020, at 2:00 p.m., Eastern Time. As part of our effort to maintain a safe and healthy environment for our directors, members of management and stockholders who wish to attend the Annual Meeting, in light of the outbreak of the novel coronavirus disease, COVID-19, we have decided to hold the Annual Meeting entirely online this year. You will be able to attend the Annual Meeting online and submit your questions during the meeting by visiting www.meetingcenter.io/271381767. The password for the meeting is RYTM2020.

The matters to be voted upon at the Annual Meeting are listed in the Notice of Annual Meeting of Stockholders and more fully described in the proxy statement accompanying this letter (the "Proxy Statement").

All stockholders of record of our common stock at the close of business on April 20, 2020, the record date, are entitled to notice of and to vote at the Annual Meeting and any continuation, postponement, or adjournment thereof. We know that certain of our stockholders will be unable to attend the Annual Meeting electronically. We, therefore, are soliciting proxies so that each stockholder has an opportunity to vote on the matters that are scheduled to come before the stockholders at the Annual Meeting. If you have previously received our Notice of Internet Availability of Proxy Materials (the "Internet Notice"), then instructions regarding how you can vote are contained in that notice. If you have received a proxy card, then instructions regarding how you can vote are contained on the proxy card. Submitting your vote via the Internet or by telephone or proxy card will not affect your right to vote electronically if you decide to attend the Annual Meeting. If your shares are held in street name (held for your account by a broker or other nominee), you will receive instructions from your broker or other nominee explaining how to vote your shares. Whether or not you expect to attend the Annual Meeting electronically, we urge you to vote your shares as promptly as possible to ensure your representation and the presence of a quorum at the Annual Meeting. Your proxy is revocable in accordance with the procedures set forth in the Proxy Statement.

Due to the impact of the novel coronavirus (COVID-19), we may be unable to provide paper copies of proxy materials to stockholders that have requested them. Therefore, as of the date of this letter and in reliance on guidance issued by the Securities and Exchange Commission on April 7, 2020, we intend to send an Internet Notice to all stockholders. Moreover, in light of possible disruptions in mail service related to COVID-19, we encourage stockholders to submit their proxy via telephone or the Internet.

Thank you for your continuing interest in the Company.

Sincerely,

/s/ HUNTER C. SMITH
Hunter C. Smith
*Chief Financial Officer and Interim President and Chief
Executive Officer*



Rhythm Pharmaceuticals, Inc.

222 Berkeley Street, 12th Floor
Boston, MA 02116

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

The Annual Meeting of Stockholders (the "Annual Meeting") of Rhythm Pharmaceuticals, Inc. (the "Company", "we" or "Rhythm") will be held on Wednesday, June 17, 2020, at 2:00 p.m., Eastern Time. The Annual Meeting will be a completely virtual meeting, which will be conducted via live webcast. You will be able to attend the Annual Meeting online and submit your questions during the meeting by visiting www.meetingcenter.io/271381767 and entering your 15-digit control number included in your Notice of Internet Availability of Proxy Materials (the "Internet Notice"), on any proxy card that you received or on the instructions that accompanied your proxy materials. The password for the meeting is RYTM2020. The Annual Meeting will be held for the following purposes:

1. To elect David W. J. McGirr and David P. Meeker, M.D. as Class III directors, each to serve for a three-year term until the 2023 Annual Meeting of Stockholders and until their respective successors are duly elected and qualified;
2. To ratify the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2020; and
3. To transact such other business as may properly come before the Annual Meeting or any continuation, postponement, or adjournment of the Annual Meeting.

The Board has fixed the close of business on April 20, 2020 as the record date for determining stockholders entitled to notice of and to vote at the Annual Meeting. Therefore, each outstanding share of Rhythm's common stock entitles the holder of record of such shares at the close of business on April 20, 2020 to receive notice of, and to vote at, the Annual Meeting or any continuation, adjournment or postponement thereof. To participate in the Annual Meeting, including to vote via the Internet or telephone, you will need the 15-digit control number included in your Internet Notice, on any proxy card that you received or on the instructions that accompanied your proxy materials. A complete list of such stockholders will be open to the examination of any stockholder for a period of ten days prior to the Annual Meeting for a purpose germane to the meeting by sending an email to David Connolly, Head of Investor Relations and Corporate Communications, at dconnolly@rhythmtx.com, stating the purpose of the request and providing proof of ownership of Company stock. The list of these stockholders will also be available on the bottom of your screen during the Annual Meeting after entering the 15-digit control number included in your Internet Notice, on any proxy card that you received or on the materials provided by your bank or broker. The Annual Meeting may be continued or adjourned from time to time without notice other than by announcement at the Annual Meeting.

Due to the impact of COVID-19, we may be unable to provide paper copies of proxy materials to stockholders that have requested them. Therefore, as of the date of this Notice and in reliance on guidance issued by the Securities and Exchange Commission on April 7, 2020, we intend to send an Internet Notice to all stockholders.

Whether or not you expect to attend the Annual Meeting electronically, we urge you to vote your shares as promptly as possible to ensure your representation and the presence of a quorum at the Annual Meeting. If you choose to attend the Annual Meeting, you may still vote your shares electronically, even if you have previously voted or returned your proxy by any of the methods

described in the Proxy Statement. Note that, in light of possible disruptions in mail service related to COVID-19, we encourage stockholders to submit their proxy via telephone or online. If your shares are held in street name in a bank or brokerage account, please refer to the materials provided by your bank, broker or other nominee for voting instructions. Your proxy is revocable in accordance with the procedures set forth in the Proxy Statement.

All stockholders are extended a cordial invitation to attend the meeting online.

By Order of the Board of Directors,

/s/ DAVID P. MEEKER, M.D.

David P. Meeker, M.D.
Chairman of the Board
April 29, 2020

TABLE OF CONTENTS

	<u>Page</u>
<u>PROXY STATEMENT</u>	<u>1</u>
<u>GENERAL INFORMATION</u>	<u>1</u>
<u>PROPOSAL NO. 1—ELECTION OF DIRECTORS</u>	<u>7</u>
<u>BOARD OF DIRECTORS</u>	<u>8</u>
<u>Board Composition and Structure</u>	<u>8</u>
<u>Director Biographies</u>	<u>9</u>
<u>CORPORATE GOVERNANCE</u>	<u>13</u>
<u>Director Independence</u>	<u>13</u>
<u>Board Meetings, Attendance and Executive Sessions</u>	<u>13</u>
<u>Board of Directors Leadership Structure</u>	<u>13</u>
<u>The Board of Directors' Role in Risk Oversight</u>	<u>14</u>
<u>Board Committees</u>	<u>14</u>
<u>Polices Governing Director Nominations</u>	<u>16</u>
<u>Stockholder Communications</u>	<u>18</u>
<u>Code of Business Conduct and Ethics and Corporate Governance Guidelines</u>	<u>18</u>
<u>Anti-Hedging and Pledging Policy</u>	<u>18</u>
<u>DIRECTOR COMPENSATION</u>	<u>19</u>
<u>EXECUTIVE OFFICERS</u>	<u>21</u>
<u>Executive Officer Biographies</u>	<u>21</u>
<u>EXECUTIVE COMPENSATION</u>	<u>23</u>
<u>2019 Summary Compensation Table</u>	<u>23</u>
<u>Outstanding Equity Awards at 2019 Fiscal Year End</u>	<u>26</u>
<u>401(k) Plan</u>	<u>27</u>
<u>Employment Arrangements</u>	<u>27</u>
<u>Compensation Consultant</u>	<u>29</u>
<u>Equity Compensation Plan Information</u>	<u>29</u>
<u>AUDIT COMMITTEE REPORT</u>	<u>30</u>
<u>PROPOSAL NO. 2—RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC</u>	
<u>ACCOUNTING FIRM</u>	<u>31</u>
<u>Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent</u>	
<u>Registered Public Accounting Firm</u>	<u>31</u>
<u>Principal Accountant Fees and Services</u>	<u>31</u>
<u>BENEFICIAL OWNERSHIP OF COMMON STOCK</u>	<u>33</u>
<u>CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS</u>	<u>38</u>
<u>Related Party Transactions Policy</u>	<u>38</u>
<u>GENERAL MATTERS</u>	<u>40</u>
<u>Availability of Certain Documents</u>	<u>40</u>
<u>Stockholders Sharing an Address / Householding</u>	<u>40</u>
<u>Stockholder Proposals and Nominations</u>	<u>40</u>
<u>Other Matters</u>	<u>41</u>

Rhythm Pharmaceuticals, Inc.
222 Berkeley Street, 12th Floor
Boston, MA 02116

PROXY STATEMENT

GENERAL INFORMATION

This proxy statement ("Proxy Statement") is furnished in connection with the solicitation by the Board of Directors (the "Board") of Rhythm Pharmaceuticals, Inc., a Delaware corporation ("Rhythm," "we," "our," "us," or the "Company"), of proxies in the accompanying form to be used at our annual meeting of stockholders to be held on June 17, 2020 at 2:00 p.m., Eastern Time, and any continuation, postponement or adjournment thereof (the "Annual Meeting"). The Annual Meeting will be a completely virtual meeting, which will be conducted via live webcast. You will be able to attend the Annual Meeting online and submit your questions during the meeting by visiting www.meetingcenter.io/271381767 and entering your 15-digit control number included in your Notice of Internet Availability of Proxy Materials (the "Internet Notice"), on any proxy card you received or on the instructions that accompanied your proxy materials. The password for the meeting is RYTM2020.

Holders of record of shares of our common stock, \$0.001 par value per share, as of the close of business on April 20, 2020 (the "Record Date"), will be entitled to notice of and to vote at the Annual Meeting and any continuation, postponement, or adjournment of the Annual Meeting.

When are this Proxy Statement and the accompanying materials scheduled to be sent to stockholders?

This Proxy Statement and the Company's Annual Report to Stockholders for the year ended December 31, 2019 (the "2019 Annual Report") will be released on or about April 29, 2020 to our stockholders on the Record Date.

Notice of Internet Availability of Proxy Materials.

As permitted by Securities and Exchange Commission ("SEC") rules, Rhythm is making this Proxy Statement and its 2019 Annual Report available to its stockholders electronically via the Internet. On or about April 29, 2020, we mailed to our stockholders a Notice of Internet Availability of Proxy Materials (the "Internet Notice") containing instructions on how to access this Proxy Statement and our 2019 Annual Report and vote online. If you received an Internet Notice by mail, you will not receive a printed copy of the proxy materials in the mail unless you specifically request them, by following the instructions for requesting such materials contained on the Internet Notice. Note that, due to the impact of COVID-19, we may be unable to provide paper copies of proxy materials to stockholders that have requested them. Therefore, as of the date of this Proxy Statement and in reliance on guidance issued by the SEC on April 7, 2020, we intend to send an Internet Notice to all stockholders.

The Internet Notice instructs you on how to access and review all of the important information contained in the Proxy Statement and 2019 Annual Report. The Internet Notice also instructs you on how you may submit your proxy over the Internet.

Who can vote at the Annual Meeting?

The Record Date for the Annual Meeting is April 20, 2020. You are entitled to vote at the Annual Meeting only if you were a stockholder of record at the close of business on that date, or if you hold a valid proxy for the Annual Meeting. As of the close of business on the Record Date, we had 44,091,798 shares of common stock outstanding. Each share of common stock entitles the holder to one vote on each matter presented at the Annual Meeting. There is no cumulative voting.

Who can attend the Annual Meeting?

As part of our effort to maintain a safe and healthy environment for our directors, members of management and stockholders who wish to attend the Annual Meeting, in light of the novel coronavirus disease, COVID-19, we have decided to hold the Annual Meeting entirely online this year. You may attend the Annual Meeting online only if you are a stockholder who is entitled to vote at the Annual Meeting, or if you hold a valid proxy for the Annual Meeting. You may attend and participate in the Annual Meeting by visiting the following website: www.meetingcenter.io/271381767. The password for the meeting is RYTM2020. To attend and participate in the Annual Meeting, you will need the 15-digit control number included in your Internet Notice, on any proxy card you received or on the instructions that accompanied your proxy materials. If you lose your 15-digit control number, you may join the Annual Meeting as a "Guest" but you will not be able to vote, ask questions or access the list of stockholders as of the Record Date. If your shares are held in "street name," as described below, you must register in advance to attend the Annual Meeting online using the instructions found under the caption " *How do I vote?* " below. You will need to obtain your own Internet access if you choose to attend the Annual Meeting online and/or vote over the Internet.

The meeting webcast will begin promptly at 2:00 p.m. Eastern Time. We encourage you to access the meeting prior to the start time, leaving ample time for check-in procedures.

What is the difference between a stockholder of record and beneficial owner of shares held in "street name"?

Stockholder of Record. If your shares are registered directly in your name with our transfer agent, Computershare Trust Company, N.A. ("Computershare"), you are considered the stockholder of record with respect to those shares, and the Notice of Annual Meeting and Proxy Statement were sent directly to you by the Company.

Beneficial Owner of Shares Held in "Street Name." If your shares are held in an account at a brokerage firm, bank, broker-dealer, or other similar organization, then you are the beneficial owner of shares held in "street name," and the Notice and Proxy Statement were forwarded to you by that organization. The organization holding your account is considered the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct that organization on how to vote the shares held in your account.

How do I vote?

Stockholders of Record. If you are a stockholder of record, you may vote:

- **By Internet.** You may vote by proxy via the Internet at www.investorvote.com/RYTM by following the instructions provided on the Internet Notice or any proxy card you received.
- **By Telephone.** If you live in the United States or Canada, you may vote by proxy by calling toll-free 1-800-652-VOTE (8683) and by following the instructions provided on the Internet Notice or any proxy card you received. You must have the control number that is included on the Internet Notice or proxy card when voting.

- **By Mail.** Complete and mail any proxy card you may have received in the accompanying postage prepaid envelope, and return the proxy card to Computershare Proxy Services, P.O. Box 505000, Louisville, KY, 40233. Your proxy will be voted in accordance with your instructions. If you have received printed copies of these proxy materials and sign and return the enclosed proxy but do not otherwise specify how you want your shares voted, they will be voted " **FOR** " the election of the Class III director nominees named herein to the Board, and " **FOR** " the ratification of the selection of Ernst & Young LLP as Rhythm's independent registered public accounting firm for the fiscal year ending December 31, 2020, and will be voted according to the discretion of the proxy holder named in the proxy card upon any other business that may properly be brought before the meeting and at all continuations, adjournments and postponements thereof.
- **Electronically at the Meeting.** If you attend the meeting online, you will need the 15-digit control number included in your Internet Notice or any proxy card you received or on the instructions that accompanied your proxy materials to vote electronically during the meeting.

Whether or not you expect to attend the Annual Meeting electronically, we urge you to vote your shares as promptly as possible to ensure your representation and the presence of a quorum at the Annual Meeting. If you submit your proxy, you may still decide to attend the Annual Meeting and vote your shares electronically. Note that, in light of possible disruptions in mail service related to COVID-19, we encourage stockholders to submit their proxy via telephone or online.

Beneficial Owners of Shares Held in "Street Name." If your shares are held in a brokerage account, by a bank, by a trustee, or by another nominee (also referred to as held in "street name"), you may:

- **Vote in Advance.** You may vote in advance of the Annual Meeting by following the voting instructions provided by your broker or other nominee and, if desired, attend the Annual Meeting webcast as a "Guest." Most brokers or other nominees permit their customers to vote by telephone or by Internet, in addition to voting by signing, dating and returning the voting instruction form provided by the broker or other nominee.
- **Register to Attend the Annual Meeting.** You may register to attend the Annual Meeting webcast as a stockholder in advance (allowing you to both vote and ask questions during the Annual Meeting).

To register to attend the Annual Meeting online, you must submit proof of your proxy power (legal proxy) reflecting your holdings in the Company along with your name and email address to Computershare. Requests for registration must be labeled as "Legal Proxy" and be received no later than 5:00 p.m., Eastern daylight time, on June 12, 2020. You will receive a confirmation of your registration by email after Computershare receives your registration materials. Requests for registration should be directed to Computershare in the following manner: (1) by email: Forward the email from your broker, or attach an image of your legal proxy, to legalproxy@computershare.com; or (2) by mail: Computershare, Rhythm Therapeutics, Inc. Legal Proxy, P.O. Box 43001, Providence, RI 02940-3001.

You will need to obtain your own Internet access if you choose to attend the Annual Meeting online and/or vote over the Internet.

What are the Board's recommendations on how to vote my shares?

The Board recommends a vote:

- *Proposal 1:* " **FOR** " the election of each of David W. J. McGirr and David P. Meeker, M.D. as Class III directors.
- *Proposal 2:* " **FOR** " ratification of the selection of Ernst & Young LLP as Rhythm's independent registered public accounting firm for the fiscal year ending December 31, 2020.

Who pays the cost for soliciting proxies?

Rhythm will bear the cost of solicitation of proxies. This includes the charges and expenses of brokerage firms and others for forwarding solicitation material to beneficial owners of our outstanding common stock. Rhythm may solicit proxies by mail, personal interview, telephone or via the Internet through its officers, directors and other management employees, who will receive no additional compensation for their services. We will also request that brokers, nominees, custodians and other fiduciaries forward soliciting materials to the beneficial owners of shares held by the brokers, nominees, custodians and other fiduciaries. We will reimburse these persons for their reasonable expenses in connection with these activities.

Can I change or revoke my vote?

You may revoke your proxy at any time before it is voted by notifying the Secretary of Rhythm in writing at our principal executive offices, by returning a signed proxy with a later date, by transmitting a subsequent vote over the Internet or by telephone prior to the close of the Internet voting facility or the telephone voting facility, or by attending the meeting and voting electronically. If your stock is held in street name, you must contact your broker or nominee for instructions as to how to change or revoke your vote.

How is a quorum reached?

The presence, online or by proxy, of holders of at least a majority of the issued and outstanding shares entitled to vote is necessary to constitute a quorum for the transaction of business at the Annual Meeting. Abstentions and "broker non-votes," if any, will be counted as present and entitled to vote for purposes of determining whether a quorum is present for the transaction of business at the meeting.

What are broker non-votes?

"Broker non-votes" are shares represented at the Annual Meeting held by brokers, banks or other nominees (i.e., in "street name") which do not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item and has not received instructions from the beneficial owner. Generally, nominees may vote to ratify the selection of independent auditors and on other "discretionary" or "routine" items. In contrast, nominees may not vote to elect directors, because those proposals are considered "non-discretionary" items. Accordingly, if you do not instruct your broker, bank or other nominee how to vote your shares on "non-discretionary" matters, your broker, bank or other nominee will not be permitted to vote your shares on these matters. This is a "broker non-vote."

What vote is required to approve each item?

Required Vote—Election of Directors (Proposal No. 1). Directors will be elected by a plurality of the votes cast, present online or represented by proxy at the Annual Meeting and entitled to vote on the election of directors. This means that the two individuals receiving the highest number of "FOR" votes will be elected as directors. Abstentions and broker non-votes will not be treated as votes cast for this purpose and, therefore, will not affect the outcome of the election.

Required Vote—Ratification of the Selection of Independent Registered Public Accounting Firm (Proposal No. 2). The affirmative vote of a majority of shares of our common stock, present online or represented by proxy at the Annual Meeting and entitled to vote, is required to ratify the selection of our independent auditors. An abstention is treated as present and entitled to vote and, therefore, has the effect of a vote "against" ratification of the selection of the independent auditors. Because the ratification of the selection of the independent auditors is a routine matter, a nominee holding shares in street name may vote on this proposal in the absence of instructions from the beneficial owner.

If the Annual Meeting is adjourned or postponed for any purpose, at any subsequent reconvening of the meeting, your proxy will be voted in the same manner as it would have been voted at the original convening of the Annual Meeting unless you withdraw or revoke your proxy.

What if a quorum is not present at the Annual Meeting?

If a quorum is not present or represented at the scheduled time of the Annual Meeting, the presiding officer of the Annual Meeting may adjourn the Annual Meeting without notice other than announcement at the meeting.

Could other matters be decided at the Annual Meeting?

Stockholders at an annual meeting will only be able to consider proposals or nominations specified in the Notice of Annual Meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the Record Date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our Corporate Secretary of the stockholder's intention to bring such business before the meeting. As of the date of this Proxy Statement, the Rhythm does not know of any other matters that may be presented for action at the Annual Meeting. Should any other business properly come before the meeting, the persons named on the enclosed proxy will have discretionary authority to vote the shares represented by such proxies in accordance with their best judgment to the same extent as the person signing the proxy would be entitled to vote. If you hold your shares through a broker, bank or other nominee as described above, the broker, bank or other nominee will not be able to vote your shares on any other business that comes before the Annual Meeting unless they receive instructions from you with respect to such matter.

Why hold a virtual meeting?

As part of our effort to maintain a safe and healthy environment for our directors, members of management and stockholders who wish to attend the Annual Meeting, in light of the novel coronavirus disease, COVID-19, we believe that hosting a virtual meeting this year is in the best interest of the Company and its stockholders. A virtual meeting also enables increased stockholder attendance and participation because stockholders can participate from any location around the world. You will be able to attend the Annual Meeting online and submit your questions by visiting www.meetingcenter.io/271381767. The password for the meeting is RYTM2020. You also will be able to vote your shares electronically at the Annual Meeting by following the instructions above.

What if during the check-in time or during the Annual Meeting I have technical difficulties or trouble accessing the virtual meeting website?

We will have technicians ready to assist you with any technical difficulties you may have accessing the virtual meeting website, and the information for assistance will be located at the following website: support.vevent.com.

Will there be a question and answer session during the Annual Meeting?

As part of the Annual Meeting, we will hold a live Q&A session, during which we intend to answer questions submitted during the meeting that are pertinent to the Company and the meeting matters, as time permits.

What happens if the meeting is continued, postponed or adjourned?

Your proxy may be voted at the continued, postponed or adjourned meeting. You will still be able to change your proxy until it is voted.

What does it mean if I receive more than one Internet Notice, proxy card or voting instruction form?

It means that you have multiple accounts at the transfer agent or with brokers. Please complete and return all proxy cards or voting instruction forms to ensure that all of your shares are voted.

Where can I find the voting results of the meeting?

The preliminary voting results will be announced at the Annual Meeting. The final results will be disclosed in a Current Report on Form 8-K within four business days after the Annual Meeting date.

What are the implications of being an "emerging growth company"?

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups (JOBS) Act of 2012 and, as such, have elected to comply with certain reduced public company reporting requirements. These reduced reporting requirements include reduced disclosure about Rhythm's executive compensation arrangements and no non-binding advisory vote on executive compensation. We will remain an emerging growth company until the earlier of (1) December 31, 2022, (2) the last day of the fiscal year (a) in which we have total annual gross revenue of at least \$1.07 billion, or (b) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds \$700.0 million as of the last business day of our most recently completed second fiscal quarter, and (3) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

**IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE
2020 ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON JUNE 17, 2020**

The Notice of Annual Meeting of Stockholders, this Proxy Statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 are available free of charge at www.edocumentview.com/RYTM or www.rhythmtx.com under "Investors & Media" at "SEC Filings."

PROPOSAL NO. 1—ELECTION OF DIRECTORS

In accordance with Rhythm's certificate of incorporation and bylaws, each as currently amended and in effect, the Board is divided into three classes of directors of approximately equal size. The members of each class of directors are elected to serve a three-year term with the term of office of each class ending in successive years. David W. J. McGirr and David P. Meeker, M.D. are the Class III directors whose terms expire at the Annual Meeting. Each of David W. J. McGirr and David P. Meeker, M.D. has been nominated for, and has agreed to stand for, election to the Board to serve as a Class III director of Rhythm for three years until the 2023 Annual Meeting of Stockholders and until his successor is duly elected and qualified or until his earlier death, incapacity, resignation or removal.

It is intended that, unless you give contrary instructions, shares represented by proxies will be voted for the election of each of the two nominees listed above as director nominees. Rhythm has no reason to believe that any nominee will be unable to serve. In the event that one or more nominees is unexpectedly not available to serve, proxies may be voted for another person nominated as a substitute by the Board, or the Board may reduce the number of directors to be elected at the Annual Meeting. Proxies cannot be voted for a greater number of persons than the number of nominees named in this proposal. Information relating to each nominee for election as director and for each continuing director, including his or her period of service as a director of Rhythm, principal occupation and other biographical material, is included under "Director Biographies" below.

A plurality of the votes cast at the meeting will be required for the election of the Class III director nominees. The two nominees for director with the highest number of affirmative votes will be elected as directors. Broker non-votes and abstentions will not be treated as votes cast for this purpose and, therefore, will not affect the outcome of the election.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR"
EACH OF THE CLASS III DIRECTOR NOMINEES NAMED IN THIS PROXY STATEMENT.**

(PROPOSAL NO. 1)

BOARD OF DIRECTORS

Board Composition and Structure

Our certificate of incorporation and bylaws, each as currently amended and in effect, state that our Board shall consist of a number of directors that shall be fixed exclusively by the Board from time to time in accordance with the bylaws of the Company. Each director holds office until his or her successor is duly elected and qualified or until his or her death, incapacity, resignation or removal. Our certificate of incorporation provides that our directors may be removed only for cause by the affirmative vote of the holders of at least 75% of the voting power of the outstanding shares of capital stock of Rhythm entitled to vote in the election of directors, voting together as a single class, at a meeting of the stockholders called for that purpose. Any vacancy in the Board, including a vacancy that results from an increase in the number of directors, may be filled only by the vote of a majority of the remaining directors then in office, although less than a quorum, or by the sole remaining director.

Our certificate of incorporation, as currently amended and in effect, provides that our Board is divided into three classes of directors, with the classes as nearly equal in number as possible. Each of our directors identified below serves in the class indicated. Subject to any earlier resignation or removal in accordance with the terms of our certificate of incorporation and bylaws, our current Class I directors will serve until the 2021 Annual Meeting of Stockholders; our current Class II directors will serve until the 2022 Annual Meeting of Stockholders; and, if elected at the Annual Meeting, our current Class III directors will serve until the 2023 Annual Meeting of Stockholders. Any additional directorships resulting from an increase in the number of directors will be apportioned by our Board among the three classes as equally as possible.

The current size of our Board is fixed at eight directors. Below is a list of the names, ages as of April 20, 2020 and classification of the individuals who currently serve as our directors, two of whom are also nominees to be re-elected at the Annual Meeting.

Name	Age	Position(s)	Class	Term Expires
Stuart Arbuckle(1)	54	Director	I	2021
Todd Foley(1)	48	Director	II	2022
Jennifer Good(1)	55	Director	II	2022
Christophe R. Jean(2)	64	Director	I	2021
Edward T. Mathers(3)	60	Director	II	2022
David W. J. McGirr(2)(3)	65	Director	III	2023
David P. Meeker, M.D.(2)(3)	65	Director, Chairman of the Board	III	2023

- (1) Member of the Compensation Committee.
- (2) Member of the Audit Committee.
- (3) Member of the Governance and Nominating Committee.

In consultation with the Governance and Nominating Committee, the Board has determined that the classified board structure remains appropriate for us at this time. A classified board provides for stability, continuity and experience among our Board. Further, the Board believes that building a cohesive board is an important goal. In our industry in particular, long-term focus is critical. The time horizon required for successful development of pharmaceuticals makes it vital that we have a board that understands the implications of this process and has the ability to develop and implement long-term strategies while benefiting from an in-depth knowledge of Rhythm's business and operations. A classified board structure helps to ensure that there will be the continuity and stability of leadership required to navigate a challenging economic environment while resisting the pressure to focus on

short-term results at the expense of our long-term value and success. The future success of Rhythm depends in significant part on the ability to attract and retain capable and experienced directors. In this regard, we believe that longer terms for our directors will enhance director independence from both management and stockholder special interest groups.

Director Biographies

Information concerning our continuing directors and director nominees is set forth below. The biographical description of each continuing director and director nominee includes the specific experience, qualifications, attributes and skills that led the Board to conclude that such person should serve as a director.

Class III Directors (Nominees Standing for Re-Election)

David P. Meeker, M.D.

Dr. Meeker has served as a member of our Board since 2015 and became Chairman of the Board in April 2017. Dr. Meeker currently serves as CEO of KSQ Therapeutics, Inc., a biotechnology company, a position he has held since October 2017. From October 2011 until June 2017, Dr. Meeker served as President and CEO of Genzyme Corporation, a unit of Sanofi S.A., a global biotechnology company. Dr. Meeker oversaw the company's two business units—Rare Diseases and Multiple Sclerosis. As an Executive Vice President of Sanofi S.A., he was a member of Sanofi S.A.'s Executive Committee. Dr. Meeker joined Genzyme Corporation in 1994 as Medical Director to work on the Cystic Fibrosis Gene Therapy program. Subsequently, as Vice President, Medical Affairs, he was responsible for the development of rare disease therapies that today represent transformative and life-saving advancements in medicine for patients. Prior to Genzyme Corporation's merger with Sanofi S.A. in 2011, Dr. Meeker was Genzyme Corporation's Chief Operating Officer, responsible for its commercial organization, overseeing its business units, country management organization and global market access functions. He played an important role in the integration with Sanofi S.A. Prior to joining Genzyme Corporation, Dr. Meeker was the director of the Pulmonary Critical Care Fellowship at the Cleveland Clinic and an assistant professor of medicine at Ohio State University. Dr. Meeker is currently a member of the board of directors of MyoKardia, Inc. and the Chairman of the board of directors of Trevi Therapeutics, Inc. He has authored more than 40 articles and multiple book chapters. Dr. Meeker received his M.D. from the University of Vermont Medical School. He completed the Advanced Management Program at Harvard Business School in 2000.

In connection with his nomination to the Board, the Board considered Dr. Meeker's deep experience as a senior executive at leading global pharmaceutical companies, and his involvement in the development and commercialization of pharmaceutical product candidates for the treatment of rare and ultra-rare diseases. The Board also considered the integral role he played in the growth of Genzyme during its period of rapid growth. The Board also noted Dr. Meeker's extensive scientific and clinical experience, both in academia and as part of one of the world's leading medical institutions.

David W.J. McGirr

Mr. McGirr has served as a member of our Board since 2015. Mr. McGirr serves as a director of X4 Pharmaceuticals, Inc., a clinical-stage biopharmaceutical company focused on the discovery and development of novel therapeutics designed to improve immune cell trafficking to treat rare diseases and cancer, and Insmid Incorporated, a pharmaceutical company devoted to the treatment of rare diseases. Mr. McGirr previously served on the boards of directors of Menlo Therapeutics, Inc. until March 2020, Roka Bioscience until January 2018 and Relypsa Inc. until September 2016. From March 2013 until June 2014, Mr. McGirr was Senior Advisor to the chief executive officer of Cubist Pharmaceuticals, Inc. and, from November 2002 to March 2013, Mr. McGirr was Senior Vice President

and Chief Financial Officer of Cubist Pharmaceuticals, Inc. Prior to joining Cubist Pharmaceuticals, Inc. in 2002, Mr. McGirr was the President and Chief Operating Officer of Hippo Inc., an internet technology, venture-financed company. Mr. McGirr served as a member of Hippo Inc.'s board of directors from 1999 to 2003. From 1996 to 1999, he was the President of GAB Robins North America, Inc., a risk management company, serving also as Chief Executive Officer from 1997 to 1999. Mr. McGirr was a private equity investor from 1995 to 1996. From 1978 to 1995, Mr. McGirr served in various positions within the S.G. Warburg Group, ultimately as Chief Financial Officer, Chief Administrative Officer and Managing Director of S.G. Warburg & Co., Inc., a position he held from 1992 to 1995. Mr. McGirr received a B.Sc. in Civil Engineering from the University of Glasgow and received an M.B.A. from The Wharton School at the University of Pennsylvania. Mr. McGirr has been designated an audit committee financial expert as defined in applicable SEC rules.

In connection with his nomination to the Board, the Board considered Mr. McGirr's deep experience in corporate finance and financial reporting, as well as his knowledge, perspective and corporate governance expertise. The Board also considered that his expertise in financial and accounting matters, his prior experience as Chief Financial Officer of a leading biotechnology company, and his service on other public company boards and committees would significantly benefit the Company.

Continuing Directors Not Standing for Re-Election at the 2020 Annual Meeting

Stuart Arbuckle

Mr. Arbuckle has served as a member of our Board since July 2019. He currently serves as Executive Vice President and Chief Commercial Officer at Vertex Pharmaceuticals Incorporated, a biopharmaceutical company, a role he has held since September 2012, where he is responsible for the company's reimbursement and access, sales, marketing, patient support and market research efforts within the cystic fibrosis franchise. Prior to joining Vertex Pharmaceuticals Incorporated, Mr. Arbuckle held several commercial leadership positions at Amgen Inc., a multinational biopharmaceutical company, including leading sales and marketing efforts for Amgen Inc.'s portfolio of cancer medicines, such as Aranesp®, Neulasta® injection and NEUPOGEN®, and leading the successful launches of XGEVA® injection and Nplate® injection. Most recently, he served as Vice President and Regional General Manager at Amgen Inc., where he led efforts to expand the company's presence in Asia, the Middle East, and Africa. Prior to these roles, Mr. Arbuckle spent 15 years at GlaxoSmithKline plc, where he held sales and marketing roles for medicines aimed at treating metabolic, respiratory, musculoskeletal, cardiovascular and other diseases. Mr. Arbuckle currently serves as a board member of ImmunoGen, Inc. and as a national board member of Cancer Support Community, an international non-profit organization dedicated to providing support and education to people affected by cancer. He also serves on the Executive Committee and Health Section Governing Board for the Biotechnology Innovation Organization, where he is co-chair of the Standing Committee on Access & Value. Mr. Arbuckle holds a B.S. in Pharmacology and Physiology from the University of Leeds in the United Kingdom.

The Board considered Mr. Arbuckle's senior executive roles at publicly-held life sciences companies, as well as his service on the boards of directors of biotechnology companies and organizations, in concluding that he is qualified to serve as a director.

Todd Foley

Mr. Foley has served as a member of our Board since 2014. Mr. Foley is a managing director with MPM Capital, a venture capital firm. Mr. Foley joined MPM Capital in 1999. Prior to joining MPM Capital, Mr. Foley worked in business development at Genentech, Inc. and in management consulting

with Arthur D. Little, Inc. Mr. Foley currently serves as a member of the board of directors of Chiasma, Inc. Mr. Foley also serves on the boards of directors of numerous private companies, including Coda Biotherapeutics, Inc., Iconic Therapeutics, Inc., Repare Therapeutics Inc., Entrada Therapeutics, Inc. and Tetherex Pharmaceuticals, Inc. Mr. Foley received a B.S. in chemistry from the Massachusetts Institute of Technology and an M.B.A. from Harvard Business School.

The Board considered Mr. Foley's broad experience in the life sciences industry, including his management and consulting roles, his tenure as a venture capitalist, as well as his service on the boards of directors of numerous companies, in concluding that he is qualified to serve as a director. The Board also noted that Mr. Foley has extensive experience with emerging therapeutic modalities.

Jennifer Good

Ms. Good has served as a member of our Board since June 2019. She is a co-founder of Trevi Therapeutics, Inc., a clinical-stage biopharmaceutical company, and has served as a member of the board of directors and as the President and Chief Executive Officer of Trevi Therapeutics, Inc. since its inception in 2011. Previously, Ms. Good served at Penwest Pharmaceuticals Co. from 1997 to 2010, where she held various positions including President and Chief Executive Officer, Chief Operating Officer and Chief Financial Officer. Ms. Good served on the board of Juniper Pharmaceuticals, Inc., a publicly traded healthcare company, from September 2017 until it was acquired by Catalent, Inc. in August 2018. Ms. Good has also served as a board member of the Friedreich's Ataxia Research Alliance, a patient advocacy group advancing treatments for the cure of Friedreich's Ataxia, since 2011. Ms. Good received a Bachelor of Business Administration degree with a concentration in accounting from Pacific Lutheran University in 1987 and is a Certified Public Accountant (inactive).

The Board considered the role Ms. Good played in the founding and growth of Trevi Therapeutics, Inc. and her senior executive roles at publicly traded life sciences companies, as well as her service on the boards of directors of biotechnology companies and organizations, in concluding that she is qualified to serve as a director.

Christophe R. Jean

Mr. Jean has served as a member of our Board since 2015. He is currently a Strategic Advisor for Oraxys S.A., a private equity firm, a role he has held since June 2019. Mr. Jean also served as a Senior Advisor for JSB Partners, LLC, a specialized biotechnology and pharmaceutical investment banking and advisory services firm, from November 2018 until December 2019. Previously, Mr. Jean served as Executive Vice President of Corporate Strategy, Business Development, Alliances and M&A for Ipsen S.A., a pharmaceutical company, from 2013 until his retirement in July 2018, after serving for 11 years in the position of Executive Vice President, Chief Operating Officer, with responsibility for all commercial operations and medical affairs worldwide as well as Ipsen S.A.'s therapeutic area franchises. Prior to joining Ipsen S.A., Mr. Jean was President and CEO for the pharmaceutical activities of the Pierre Fabre Group and President of Europe, Middle East, and Africa for Novartis Pharma AG's Pharmaceutical Division. Prior to the merger of Ciba-Geigy AG and Sandoz Inc. that formed Novartis Pharma AG, he held a number of marketing and management positions in Europe and Latin America for Ciba-Geigy AG, culminating as Head of Finance and IT Worldwide and Member of the Pharma Executive Committee. Mr. Jean is a member of the boards of directors of private companies Keosys SAS and Bcell Therapeutics. He holds an M.B.A. from Harvard Business School.

The Board considered Mr. Jean's international business experience and executive leadership at several of the world's leading pharmaceutical companies and his long career in commercial leadership roles in concluding that he is qualified to serve as a director. The Board also considered Mr. Jean's extensive experience in commercializing therapeutics outside of the United States.

Edward T. Mathers

Mr. Mathers has served as a member of our Board since 2013. He has been a Partner at New Enterprise Associates, a venture capital firm, since 2008, and has also served as General Partner since October 2019. Mr. Mathers currently serves on the boards of directors of ObsEva SA, Trevi Therapeutics, Inc., Mirum Pharmaceuticals, Inc., and Synlogic, Inc.. Mr. Mathers also serves on the boards of directors of numerous private companies, including Akouos, Inc., Amplyx Pharmaceuticals, Inc., Envisia Therapeutics Inc., Inozyme Pharma, Inc., Shape Therapeutics, Inc., Reneo Pharmaceuticals, Inc., and Senti Biosciences Inc. Mr. Mathers previously served on the board of directors of Ra Pharmaceuticals, Inc. until its acquisition by UCB in April 2020 and Liquidia Technologies, Inc. until May 2019. Prior to joining New Enterprise Associates, Mr. Mathers served in various corporate development roles at MedImmune, Inc., a biotechnology company that was acquired by AstraZeneca PLC in 2007, culminating in the position of Executive Vice President, Corporate Development and Venture. In this role, he also led the company's venture capital subsidiary, MedImmune Ventures, Inc., from 2002 to 2008. Mr. Mathers was a director of MedImmune, LLC, from 2007 to 2008. From 2000 to 2002, Mr. Mathers was Vice President, Marketing and Corporate Licensing and Acquisitions at Inhale Therapeutic Systems, Inc., a biopharmaceutical company, which is now known as Nektar Therapeutics, Inc. Previously, for 15 years, Mr. Mathers was at Glaxo Wellcome, Inc., where he held sales and marketing positions of increasing responsibility. Mr. Mathers received a B.S. in chemistry from North Carolina State University.

The Board considered Mr. Mathers' senior executive roles in publicly traded life sciences companies, his extensive experience as a venture capitalist, as well as his service on the boards of directors of numerous biotechnology companies, in concluding that he is qualified to serve as a director.

CORPORATE GOVERNANCE

Director Independence

Under the rules of The Nasdaq Stock Market LLC, or Nasdaq, a majority of a listed company's board of directors must be comprised of independent directors. In addition, Nasdaq rules require that, subject to specified exceptions, each member of a listed company's audit committee and compensation committee be independent and satisfy additional independence criteria set forth in Rules 10A-3 and 10C-1, respectively, under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Under Nasdaq rules, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Based upon information requested from and provided by our directors and nominees concerning their background, employment and affiliations, including family relationships, our Board has determined, upon the recommendation of our Governance and Nominating Committee, that each of our directors and nominees has no relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and is independent within the meaning of the director independence standards of Nasdaq and the Securities and Exchange Commission, or SEC. Our Board has also determined that each of the current members of our Audit Committee and our Compensation Committee as set forth in the "Board Committees" section below satisfies the heightened independence standards for such committee. In making such determination, our Board considered the relationships that each non-employee director has with Rhythm and all other facts and circumstances deemed relevant in determining their independence, including Christophe R. Jean's former role as Executive Vice President at Ipsen S.A., an entity with which we have an ongoing contractual relationship.

There are no family relationships among any of our directors, nominees or executive officers.

Board Meetings, Attendance and Executive Sessions

The Board held eight meetings during the year ended December 31, 2019. All board members attended at least 75% of the meetings of the Board and the committees of the Board on which they served.

Executive sessions, or meetings of the independent directors, without management present, are held regularly. The independent directors met in executive session during each of the regularly scheduled Board meetings during the year ended December 31, 2019.

Rhythm encourages its directors to attend the Annual Meeting. All members of the Board then-serving attended the 2019 Annual Meeting of Stockholders.

Board of Directors Leadership Structure

The positions of chairman of the Board and chief executive officer are presently separated. Our Board recognizes the time, effort and energy that the chief executive officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chairman, particularly as the Board's oversight responsibilities continue to grow. Our Board believes that having separate positions demonstrates our commitment to good corporate governance. For these reasons, the Board has concluded that our current leadership structure is appropriate at this time.

However, our Board may consider the leadership structure of the Board from time to time and may make such changes in the future as it deems appropriate. If, in the future, the chairman of the Board is a member of management or does not otherwise qualify as independent, our corporate governance guidelines provide for the appointment by the independent directors of a Lead Director.

Board of Directors Role in Risk Oversight

The Audit Committee of the Board is primarily responsible for overseeing our risk management processes on behalf of the Board. The Audit Committee receives reports from management regarding our assessment of risks. In addition, the Audit Committee reports regularly to the Board, which also considers our risk profile. The Audit Committee and the Board focus on the most significant risks we face and our general risk management strategies, including business continuity risks, such as risks relating to the COVID-19 pandemic, and our major financial and cybersecurity risk exposures and the steps our management has taken to monitor and control these exposures. The Audit Committee and the Board also monitor compliance with legal and regulatory requirements. In addition, our Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking, and the Governance and Nominating Committee oversees risks associated with the independence of the Board and also considers and approves or disapproves any related person transactions and monitors the effectiveness of our corporate governance guidelines.

While the Board oversees our risk management, management is responsible for day-to-day risk management processes. Our Board expects management to consider risk and risk management in each business decision, to proactively develop and monitor risk management strategies and processes for day-to-day activities and to effectively implement risk management strategies adopted by the Audit Committee and the Board. Management discusses strategic and operational risks at regular management meetings and conducts specific strategic planning and review sessions during the year that include a focused discussion and analysis of the risks facing us. Throughout the year, senior management reviews these risks with the Board of Directors at regular Board meetings as part of management presentations that focus on particular business functions, operations or strategies, and presents the steps taken by management to mitigate or eliminate such risks. We believe this division of responsibilities is the most effective approach for addressing the risks we face and that the leadership structure of our Board, which also emphasizes the independence of the Board in its oversight of its business and affairs, supports this approach.

Board Committees

Our Board has established the following standing committees: an Audit Committee, a Compensation Committee, and a Governance and Nominating Committee. The composition and responsibilities of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our Board. Each of the Audit Committee, Compensation Committee and Governance and Nominating Committee operates pursuant to a written charter and each committee reviews and assesses the adequacy of its charter annually and recommends any proposed changes to the Board for approval. The charters for the Audit Committee, Compensation Committee, and Governance and Nominating Committee are all available on our website at www.rhythmtx.com under "Investors & Media" at "Corporate Governance."

The following table describes which directors serve on each of the Board committees.

Name:	Governance and Nominating Committee	Compensation Committee	Audit Committee
Stuart Arbuckle		X	
Todd Foley		X	
Jennifer Good		X*	
Christophe R. Jean			X
Edward T. Mathers	X		
David W. J. McGirr	X		X*
David P. Meeker, M.D.	X*		X

* Denotes chair of committee.

Audit Committee

Our Audit Committee provides oversight of our accounting and financial reporting process, the audit of our financial statements and our internal control function. Among other matters, the Audit Committee is responsible for the following: assisting the Board in oversight of the independent auditors' qualifications, independence and performance; the engagement, retention and compensation of the independent auditors; reviewing the scope of the annual audit; reviewing and discussing with management and the independent auditors the results of the annual audit and the review of our quarterly financial statements, including the disclosures in our annual and quarterly reports filed with the SEC; reviewing our risk assessment and risk management processes; establishing procedures for receiving, retaining and investigating complaints received by us regarding accounting, internal accounting controls or audit matters; and approving audit and permissible non-audit services provided by our independent auditor.

The current members of our Audit Committee are David W.J. McGirr, who is the chair of the Audit Committee, Christophe R. Jean, and David P. Meeker, M.D. All members of our Audit Committee meet the requirements for financial literacy under the applicable rules and regulations of the SEC and Nasdaq. Our Board has determined that Mr. McGirr is an audit committee financial expert as defined under SEC rules and has the requisite financial sophistication under applicable rules and regulations of Nasdaq as a result of, among other things, his senior-level executive experience, including his service as Chief Financial Officer of Cubist Pharmaceuticals, Inc. from November 2002 to March 2013. All of the members of our Audit Committee are independent directors as defined under the applicable rules and regulations of the SEC and Nasdaq.

During the year ended December 31, 2019, the Audit Committee met four times. The report of the Audit Committee is included in this Proxy Statement under "Audit Committee Report."

Compensation Committee

Our Compensation Committee adopts and administers the compensation policies, plans and benefit programs for our executive officers and all other members of our executive team. Our Compensation Committee is also responsible for making recommendations to the full Board regarding non-employee director compensation. In addition, among other things, our Compensation Committee evaluates annually, in consultation with the Board, the performance of our chief executive officer, reviews and approves corporate goals and objectives relevant to compensation of our chief executive officer and other executives and evaluates the performance of these executives in light of those goals and objectives. Although our chief executive officer does not participate in decisions involving his own

compensation, his recommendations and input, along with input from other executive officers, are often taken into consideration by the Compensation Committee when making compensation decisions.

Our Compensation Committee also administers our equity compensation plans, including approving, or recommending to our Board of Directors for approval, issuances of stock options and other awards under such plans. The Compensation Committee may delegate its authority under its charter to one or more subcommittees as it deems appropriate from time to time as further described in its charter. The Compensation Committee may also delegate, or recommend to our Board of Directors that it delegate, to our chief executive officer the authority to approve equity awards under our equity plans, as further described in its charter and to the extent permitted under our equity plans.

The Compensation Committee has the authority to retain or obtain the advice of compensation consultants, legal counsel and other advisors to assist in carrying out its responsibilities. For discussion of the role of compensation consultants in determining executive and non-employee director compensation, please refer to "Executive Compensation" and "Director Compensation" below.

The current members of our Compensation Committee are Jennifer Good, who is the chair of the Compensation Committee, Stuart Arbuckle and Todd Foley. All members of our Compensation Committee are independent under applicable rules and regulations of the SEC and Nasdaq.

During the year ended December 31, 2019, the Compensation Committee met five times.

Governance and Nominating Committee

Our Governance and Nominating Committee is responsible for, among other things, making recommendations regarding corporate governance, the composition of our Board, the identification, evaluation and nomination of director candidates and the structure and composition of committees of our Board. In addition, our Governance and Nominating Committee oversees our corporate governance guidelines, reviews and assesses the adequacy of our committee charters, oversees compliance with our code of business conduct and ethics, contributes to succession planning, reviews policies and procedures with respect to any related party transactions and oversees our board self-evaluation process.

The current members of our Governance and Nominating Committee are David P. Meeker, M.D., who is the chair of the Governance and Nominating Committee, Edward T. Mathers, and David W.J. McGirr. All of the members of our Governance and Nominating Committee are independent under applicable rules and regulations of Nasdaq.

During the year ended December 31, 2019, the Governance and Nominating Committee met twice.

Polices Governing Director Nominations

Director Nomination Process

Our Board is responsible for selecting its own members. The Board delegates the selection and nomination process to the Governance and Nominating Committee, with the expectation that other members of the Board and of management will be requested to take part in the process as appropriate. The Governance and Nominating Committee makes recommendations to the Board regarding the size and composition of the Board. The Governance and Nominating Committee reviews annually with the Board the composition of the Board as a whole and recommends, if necessary, measures to be taken so that the Board reflects the appropriate balance of knowledge, experience, skills, expertise and diversity required for the Board as a whole and contains at least the minimum number of independent directors required by applicable laws and regulations. The Governance and Nominating Committee is responsible for ensuring that the composition of the Board accurately reflects the needs of Rhythm's business and, in furtherance of this goal, for proposing the resignation of members for purposes of ensuring the

appropriate members and skills. The Governance and Nominating Committee recommends, and the Board nominates, candidates to stand for election as directors.

Generally, our Governance and Nominating Committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisors, through recommendations submitted by stockholders or through such other methods as the Governance and Nominating Committee deems to be helpful to identify candidates. Once candidates have been identified, our Governance and Nominating Committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the Governance and Nominating Committee. The Governance and Nominating Committee may gather information about the candidates through interviews, detailed questionnaires, background checks or any other means that the Governance and Nominating Committee deems to be appropriate in the evaluation process. The Governance and Nominating Committee then meets as a group to discuss and evaluate the qualifications and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of the Board. Based on the results of the evaluation process, the Governance and Nominating Committee recommends to the Board for approval candidates as director nominees for election to the Board. Each of David W. J. McGirr and David P. Meeker, M.D., the Class III director nominees, was initially identified as a potential director candidate by Keith M. Gottesdiener, M.D., our former President and Chief Executive Officer, and recommended by the Governance and Nominating Committee.

Stockholders may also recommend potential director candidates by submitting the names of the recommended individuals, together with appropriate biographical information and background materials, to the Governance and Nominating Committee, c/o Secretary, 222 Berkeley Street, 12th Floor, Boston, MA 02116. In the event there is a vacancy, and assuming that appropriate biographical and background material has been provided on a timely basis, the Governance and Nominating Committee will evaluate stockholder-recommended candidates by following substantially the same process described above, and applying substantially the same criteria set forth below under "Minimum Qualifications," as it follows for candidates submitted by others.

To nominate a person to stand for election as a director, a stockholder must provide our Secretary with timely notice of the nomination and the notice must include the information required by Section 2.12(b) of our bylaws. Additional information regarding requirements for stockholder nominations of director candidates for next year's annual meeting is described in this Proxy Statement under "General Matters—Stockholder Proposals and Nominations."

Minimum Qualifications

Our Governance and Nominating Committee will consider, among other things, the following qualifications, skills and attributes when recommending candidates for the Board's selection as nominees for the Board and as candidates for appointment to the Board's committees. The nominee shall have the highest personal and professional integrity, shall have demonstrated exceptional ability and judgment, and shall be most effective, in conjunction with the other members of the Board, in collectively serving the long-term interests of our stockholders. Board members should possess such attributes and experience as are necessary to provide a broad range of personal characteristics including diversity, management skills and business experience. Directors should be able to commit the requisite time for preparation and attendance at regularly scheduled Board and committee meetings, as well as be able to participate in other matters necessary to ensure that good corporate governance is practiced.

In evaluating the suitability of individual candidates (both proposed director candidates and current Board members), our Governance and Nominating Committee may consider, in addition to the minimum qualifications and other criteria for board membership approved by the Board from time to time, all facts and circumstances that it deems appropriate or advisable, including, among other things,

diversity, not limited to race, gender or national origin, the skills of the proposed director candidate, his or her depth and breadth of professional experience or other background characteristics, his or her independence and the needs of the Board. Although we have no formal policy regarding board diversity, we consider diversity in our Board's makeup, and our Governance and Nominating Committee's priority in selecting Board members is the identification of persons who will further the interests of Rhythm through an established record of professional accomplishment, the ability to contribute positively to the collaborative culture among Board members, and professional and personal experiences and expertise relevant to our growth strategy. The Governance and Nominating Committee will consider candidates recommended by stockholders. See "Director Nomination Process" above.

Stockholder Communications

Stockholders wishing to communicate with our Board may do so by writing to the Board or to the non-employee members of the Board as a group, at:

Rhythm Pharmaceuticals, Inc.
222 Berkeley Street, 12th Floor
Boston, MA 02116
Attention: Secretary

The communication must prominently display the legend "BOARD COMMUNICATION" in order to indicate to the Secretary that it is a communication for the Board. Upon receiving such a communication, the Secretary will promptly forward the communication to the relevant individual or group to which it is addressed. Certain items that are unrelated to the Board's duties and responsibilities may be excluded, such as spam, junk mail and mass mailings, resumes and other forms of job inquiries, surveys and business solicitations or advertisements. The Secretary will not forward any communication determined in good faith belief to be frivolous, unduly hostile, threatening, illegal or similarly unsuitable.

Code of Business Conduct and Ethics and Corporate Governance Guidelines

We have a code of business conduct and ethics that applies to all of our employees, including our executive officers and those employees responsible for financial reporting, and directors. The code of business conduct and ethics is available on our website at www.rhythmtx.com under "Investors & Media" at "Corporate Governance"; or by requesting a copy, free of charge, in writing from our Secretary at Rhythm Pharmaceuticals, Inc., 222 Berkeley Street, 12th Floor, Boston, MA 02116. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding any amendment to, or waiver under, a provision of the code of business conduct and ethics, as well as Nasdaq's requirement to disclose waivers with respect to directors and executive officers, by posting such information on our website at the address specified above within four business days following the date of such amendment or waiver.

A copy of our corporate governance guidelines may also be accessed free of charge by visiting our website at www.rhythmtx.com under "Investors & Media" at "Corporate Governance" or by requesting a copy from our Secretary at our principal executive offices above.

Anti-Hedging and Pledging Policy

Pursuant to our Insider Trading Policy, we prohibit our employees and members of the Board from engaging in any hedging or monetization transactions relating to our equity securities, including through the use of financial instruments such as prepaid variable forwards contracts, equity swaps, collars and exchange funds. We also prohibit our employees and members of the Board from holding our equity securities in a margin account or otherwise pledging our equity securities as collateral for a loan.

DIRECTOR COMPENSATION

We maintain a non-employee director compensation program that is intended to provide a total compensation package that enables us to attract and retain qualified and experienced individuals to serve as directors and to align our directors' interests with those of our stockholders. Our Compensation Committee periodically reviews the compensation of our non-employee directors and, as applicable, makes recommendations to the Board for its consideration of changes to our non-employee director compensation program. Our Compensation Committee compares the compensation of our Board to compensation paid to non-employee directors of similarly sized public companies. Our Compensation Committee also considers the responsibilities we ask from the members of our Board along with the amount of time required to perform those responsibilities. Following consideration of the foregoing factors in consultation with Radford, our independent compensation consultant, our director compensation program was last amended by the Board effective January 1, 2019 to provide for the compensation described below and to position our director compensation program closer to the median of market.

Under our director compensation program, we provide our non-employee directors with cash retainers and stock options. We do not pay any compensation to our President and Chief Executive Officer in connection with his service on our Board. The compensation that we pay to our President and Chief Executive Officer is discussed in the "Executive Compensation" section of this Proxy Statement. For 2019, each non-employee director received an annual retainer fee of \$40,000 paid in arrears. In addition, in 2019 non-employee directors received the following, as applicable:

<u>Non-Employee Director</u>	<u>Annual Fee</u>
Lead Director	\$ 25,000
Non-Executive Chair	\$ 30,000
Chair of the Audit Committee	\$ 15,000
Member of the Audit Committee (other than chair)	\$ 7,500
Chair of the Compensation Committee	\$ 12,000
Member of the Compensation Committee (other than chair)	\$ 6,000
Chair of the Governance and Nominating Committee	\$ 8,000
Member of the Governance and Nominating Committee (other than chair)	\$ 4,000

We also reimburse our non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending Board and committee meetings.

Under the non-employee director compensation program, each individual who is initially appointed or elected to the Board is also eligible to receive an option to purchase up to 30,000 shares of our common stock under our 2017 Equity Incentive Plan on the date he or she first becomes a non-employee director. These option grants vest annually over a three-year period from the date of grant, subject to continued service as a non-employee director through the vesting date. In addition, on the date of the annual meeting of stockholders, each continuing non-employee director who has served on the Board for a minimum of six months is eligible to receive an option grant to purchase 15,000 shares of our common stock, which will vest in full upon the earlier of the first anniversary of the date of grant or the date of the next annual meeting of stockholders. The exercise price for each of these option grants is equal to the fair market value of our common stock on the date of grant. These initial grants and annual grants are subject to approval by our Board at the time of grant.

Prior to the amendment of our director compensation program in 2019, the annual fee for board service was \$35,000, the annual retainer for the Chair of the Compensation Committee was \$10,000, the annual retainer for each non-chair member of the Compensation Committee was \$5,000, the initial grant covered 20,000 shares, and the annual grant covered 10,000 shares.

The following table sets forth information regarding compensation earned by our non-employee directors during fiscal year 2019.

<u>Name</u>	<u>Fees earned in cash \$(1)</u>	<u>Option awards \$(2)(3)</u>	<u>Total (\$)</u>
Stuart Arbuckle	\$ 23,000(4)	\$ 344,028	\$ 367,028
Neil Exter	\$ 26,000(5)	\$ —	\$ 26,000
Todd Foley	\$ 46,000	\$ 201,843	\$ 247,843
Jennifer Good	\$ 26,000(6)	\$ 403,686	\$ 429,686
Christophe R. Jean	\$ 47,500	\$ 201,843	\$ 249,343
Edward T. Mathers	\$ 44,000	\$ 201,843	\$ 245,843
David W. J. McGirr	\$ 59,000	\$ 201,843	\$ 260,843
David P. Meeker, M.D.	\$ 85,500	\$ 201,843	\$ 287,343

- (1) Amounts represent annual cash compensation earned for services rendered by each member of the Board.
- (2) These options fully vest on June 17, 2020, subject to continued service, and have a weighted average exercise price of \$22.07 per share.
- (3) Amounts shown reflect the grant date fair value of options awarded during fiscal year 2019 determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*. These amounts exclude the value of estimated forfeitures. See Note 7 to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019 for information regarding the assumptions used in valuing the options
- (4) Mr. Arbuckle was appointed to our Board effective July 23, 2019. Amounts shown represent the pro rata portion of Mr. Arbuckle's director fees for fiscal year 2019.
- (5) Mr. Exter retired from our Board effective June 19, 2019.
- (6) Ms. Good was appointed to our Board effective June 19, 2019. Amounts shown represent the pro rata portion of Ms. Good's director fees for fiscal year 2019.

The following table sets forth, as of December 31, 2019, the aggregate number of exercisable and unexercisable option awards outstanding held by our non-employee directors at that time.

<u>Name</u>	<u>Option Awards</u>	
	<u>Exercisable</u>	<u>Unexercisable</u>
Stuart Arbuckle	—	30,000
Neil Exter	—	—
Todd Foley	10,000	15,000
Jennifer Good	—	30,000
Christophe R. Jean	10,000	15,000
Edward T. Mathers	10,000	15,000
David W. J. McGirr	89,971	22,270
David P. Meeker, M.D.	97,241	36,810

EXECUTIVE OFFICERS

Below is a list of the names, ages as of April 20, 2020, positions, and a brief account of the business experience of the individuals who serve as our executive officers.

<u>Name</u>	<u>Age</u>	<u>Position(s)</u>
Hunter C. Smith	52	Chief Financial Officer, Treasurer, Secretary and Interim President and Chief Executive Officer
Nithya Desikan	41	Chief Commercial Officer
Simon Kelner	47	Chief Human Resources Officer
Murray Stewart, M.D.	59	Chief Medical Officer

Executive Officer Biographies***Hunter C. Smith -- Chief Financial Officer, Treasurer, Secretary and Interim President and Chief Executive Officer***

Mr. Smith has been Chief Financial Officer since July 2017, Treasurer since August 2017, Interim President and Chief Executive Officer since March 2020 and Secretary since April 2020. He has more than 25 years of global finance and management experience across multiple industries and financial disciplines, including expertise in business analysis and planning, mergers and acquisitions, treasury, capital raising and investor relations. Previously, he was Vice President, Finance and Chief Financial Officer of the Inflammation and Immunology Business Unit at Celgene Corporation, or Celgene, a global biopharmaceutical company, from 2013 to July 2017. In this role, Mr. Smith provided finance leadership for the global launch of Otezla® and led global business planning and analysis for commercial affiliates and clinical study activities in over 16 countries. Before joining Celgene, Mr. Smith worked in roles of increasing responsibility at Bunge Limited from 1999 to 2013, including Director of Investor Relations, Chief Financial Officer—Asia, Chief Risk Officer, Corporate Treasurer, and Chief Financial Officer of Bunge's Sugar and Bioenergy Segment. Until its acquisition by Brookfield Infrastructure Partners in December 2019, Mr. Smith also served as an independent director of Genesee & Wyoming Inc. and is a member of its compensation and governance committees. Mr. Smith holds an M.B.A. in Finance from New York University's Stern School of Business and a B.A. in History from Northwestern University.

Nithya Desikan -- Chief Commercial Officer

Ms. Desikan has been Chief Commercial Officer since July 2017. She has over 15 years of experience commercializing new therapies in domestic and global markets. Previously, Ms. Desikan worked at Biogen Inc., or Biogen, a global biotechnology company, where she served most recently as Vice President and Asset Executive, from September 2016 to July 2017, overseeing global profit and loss account for TECFIDERA® and supporting the product's position as the #1 prescribed oral therapy in multiple sclerosis, and from 2015 to 2016, building a team to support the Biogen pipeline for the clinical development of inflammatory bowel disease. Prior to that, Ms. Desikan held the role of Vice President and Program Executive from 2014 to 2015, where she led Biogen's Hematology business, now the spin-off, Bioverativ, to drive the growth of ALPROLIX® and ELOCTATE® and the development of multiple preclinical assets. Before that, Ms. Desikan built the strategy to support the U.S. launch of ALPROLIX, Biogen's first entrant into the orphan hemophilia market. Before joining Biogen, Ms. Desikan spent 12 years at Johnson & Johnson in the United States and China, supporting brands including: XARELTO®, LEVAQUIN®, TOPAMAX®, ULTRACET®, NUCYNTA®, NUCYNTA® ER and VELCADE®. Ms. Desikan holds a B.S. in Material Science Engineering, with honors, from the University of Florida.

Simon D. Kelner -- Chief Human Resources Officer

Mr. Kelner has been Chief Human Resources Officer since June 2018. He has over 25 years of experience serving in various human resources leadership roles across multiple industries, including with pharmaceutical companies and in the United States, Switzerland, Israel, and the United Kingdom. Previously, Mr. Kelner worked at Teva Pharmaceuticals Ltd., a multinational pharmaceutical company, from 2016 through 2018, where he served as Vice President, Human Resources—Global Talent Acquisition and Mobility, and developed hiring and talent engagement models. Prior to that, Mr. Kelner held roles of increasing responsibility at Merck & Co., Inc. beginning in 2003, and served most recently as Global Head Talent Development / Future Employment Models from January 2015 to October 2016 and as Executive Director, HR Business Partner—R&D, Technology, Finance and Strategy from July 2013 to January 2015. Mr. Kelner holds an International Executive M.B.A. from Northwestern's Kellogg School of Management, a B.Sc. with Honors in Management Sciences from the University of Manchester Institute of Science and Technology, and a certification in Professional Human Resources Qualifications from the Chartered Institute of Personnel and Development.

Murray Stewart, M.D. -- Chief Medical Officer

Dr. Stewart has been Chief Medical Officer since October 2018. Before joining Rhythm, he was Executive Vice President, Head of Research and Development of Novelion Therapeutics, Inc., a biopharmaceutical company, from November 2017 to October 2018. From 2014 to November 2017, Dr. Stewart was Chief Medical Officer of GlaxoSmithKline plc, or GSK, with global responsibility for the vaccines, pharmaceutical and consumer business units. Prior to that, after joining GSK in 2000 as associate director for clinical research and development in the United Kingdom, Dr. Stewart served in positions of increasing responsibility at GSK, including as GSK's therapy area head for the cardiovascular and metabolic therapy areas from 2010 to 2014 and the clinical head of the biopharmaceutical unit from 2009 to 2010. Prior to joining the pharmaceutical industry, Dr. Stewart worked as a diabetes consultant and senior lecturer and was consultant physician/honorary senior lecturer and head of clinical services at the Diabetes Centre, Newcastle upon Tyne in the United Kingdom. Dr. Stewart serves on the board of directors and the audit and compensation committees of X4 Pharmaceuticals, Inc. and Vivli, a non-profit organization implementing a clinical research data-sharing platform. Dr. Stewart completed his medical training at Southampton Medical School in the United Kingdom and is a Fellow of the Royal College of Physicians.

EXECUTIVE COMPENSATION

2019 Summary Compensation Table

The following table sets forth information about compensation awarded or paid to our named executive officers for the 2018 and 2019 fiscal years.

Name and Principal Position	Year	Base Salary(1) (\$)	Option Awards(2) (\$)	Non-Equity Incentive Plan Compensation(3) (\$)	All Other Compensation (\$)	Total (\$)
Keith M. Gottesdiener, M.D.(4), <i>Former President and Chief Executive Officer</i>	2019	525,934	4,133,768	277,340	—	4,937,042
	2018	505,519	2,756,250	278,035	—	3,539,804
Hunter C. Smith, <i>Chief Financial Officer, Treasurer, Secretary and Interim President and Chief Executive Officer</i> (6)	2019	396,992	1,286,061	153,224	86,576(5)	1,922,853
	2018	387,600	960,750	152,211	86,576	1,587,137
Nithya Desikan <i>Chief Commercial Officer</i> (7)	2019	379,063	1,286,061	145,117	—	1,810,241

- (1) Salaries include amounts contributed by the named executive officer to our 401(k) plan.
- (2) Amounts shown reflect the grant date fair value of options awarded during each of fiscal years 2018 and 2019, determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*. These amounts exclude the value of estimated forfeitures. Note that the amounts reported in this column reflect the accounting cost for these stock options, and do not correspond to the actual economic value that may be received by the named executive officers from the options. See Note 7 to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019 for information regarding assumptions used in valuing the awards.
- (3) Amounts shown reflect the cash performance bonus amount paid to the named executive officers for fiscal years 2018 and 2019 that was earned based on Rhythm's performance. Annual cash incentive compensation earned during the year is typically paid in the following year.
- (4) Dr. Gottesdiener stepped down from his roles as our President and Chief Executive Officer and as a member of our Board effective as of March 27, 2020.
- (5) Mr. Smith's employment letter agreement entitles him to an aggregate amount of \$173,152 for travel, commuting, lodging and relocation expenses, which amount is payable in 24 equal monthly installments commencing on the first payroll date following January 1, 2018.
- (6) Mr. Smith was appointed to the additional office of Interim President and Chief Executive Officer of the Company effective March 28, 2020.
- (7) Ms. Desikan was not one of our named executive officers for the 2018 fiscal year.

Our executive compensation program is based on a pay-for-performance philosophy. The Compensation Committee designed our executive compensation program to achieve the following primary objectives: provide compensation and benefit levels that will attract, retain, motivate and reward a highly talented executive team within the context of responsible cost management; establish a direct link between our individual/team performance and results and our executives' compensation; and align the interests and objectives of our executives with those of our stockholders by linking executive

equity awards to stockholder value creation. The compensation program for our executive officers is composed primarily of the following three main components: base salary, annual cash incentives and long-term equity incentives.

In 2019, as part of our annual evaluation of executive compensation, we engaged Radford, an Aon Hewitt company, or Radford, an independent executive compensation consultant, to provide advice and recommendations relating to our executive officer compensation arrangements. Radford had previously provided the Compensation Committee with guidance on executive officer compensation in 2018. Radford assisted the Compensation Committee in determining an appropriate peer group to evaluate our executive officer compensation for alignment with governance and market best practices, and to provide recommendations on appropriate compensation philosophy to guide the Compensation Committee in determining executive officer compensation.

The peer group was selected based on, among other things, the following criteria: (i) publicly traded pre-commercial therapeutic/biotechnology companies, (ii) companies in the late stage of development of product and companies that are currently in the regulatory approval process, (iii) companies with market capitalizations between \$500 million and \$3.5 billion, and (iv) companies with less than 200 employees.

The following table presents the peer group selected in 2019 by the Compensation Committee following its discussions with Radford. The Compensation Committee believed when it selected this peer group that this peer group was appropriate from a strategic/stage of development and market capitalization perspective based on, among other things, the above-defined criteria.

Accelaron Pharma	Dicerna Pharmaceuticals	Odonate Therapeutics
Akebia Therapeutics	Esperion Therapeutics	Ra Pharmaceuticals
Atara Biotherapeutics	Global Blood Therapeutics	Reata Pharmaceuticals
Audentes Therapeutics	Insmed	Syros Pharmaceuticals
Biohaven Pharmaceuticals	Intra-Cellular Therapies	TG Therapeutics
Cara Therapeutics	Iovance Biotherapeutics	Zogenix
ChemoCentryx	Karyopharm Therapeutics	
Deciphera Pharmaceuticals	MyoKardia	

As compared to our peer group selected in 2018, the 2019 peer group excluded Minerva Neurosciences and GlycoMimetics because they no longer met our peer group criteria, and Dicerna Pharmaceuticals was added as a replacement.

Base Salary

The 2019 base salaries, effective March 1, 2019, were determined for each named executive officer by the Compensation Committee, which gives consideration to each officer's experience, expertise and performance, as well as market compensation levels for similar positions.

<u>Name</u>	<u>2019 Base Salary (\$)</u>
Keith M. Gottesdiener, M.D.,	\$ 530,795
Hunter C. Smith,	\$ 399,228
Nithya Desikan,	\$ 381,888

Annual Performance-Based Incentive Opportunity

In addition to base salaries, our named executive officers are eligible to receive annual performance-based cash incentives, which are designed to motivate our executives to achieve defined

annual corporate and individual goals. The annual performance-based cash incentive each named executive officer was eligible to receive in 2019 was determined based on each named executive officer's target bonus, multiplied by a weighted achievement score determined by the Compensation Committee based on overall achievement of the annual corporate goals and each named executive officer's achievement of his or her individual goals. In 2019, achievement of the corporate goals accounted for 80% of the overall achievement score and achievement of each named executive officer's individual goals accounted for 20% of the overall achievement score. At the beginning of each year, the Compensation Committee reviews and approves the annual corporate and individual goals. There is no minimum bonus percentage or amount established for the named executive officers and, as a result, the bonus amounts vary from year to year based on corporate and individual performance.

The annual corporate goals were designed to measure our commercial growth and the development of our product candidates, including the progression and enrollment of our clinical programs, announcement of clinical trial results, achievement of product candidate development and regulatory milestones, expansion of genetic disorder and patient identification programs, and progression of our commercial capabilities through establishment of infrastructure and facilities. In 2019, Rhythm announced positive topline Phase 3 data in patients with pro-opiomelanocortin ("POMC") deficiency obesity and leptin receptor ("LEPR") deficiency obesity, completed enrollment of the pivotal cohort in a Phase 3 trial evaluating setmelanotide for the treatment of both severe hunger and obesity in individuals living with Bardet Biedl syndrome or Alström syndrome, and initiated work on a rolling submission of a New Drug Application ("NDA") to the U.S. Food and Drug Administration for setmelanotide for the treatment of POMC and LEPR deficiency obesity, which NDA submission was ultimately completed in March 2020. Additionally, Rhythm made positive progress in community building efforts and the Rhythm Engine for identifying patients with rare genetic disorders of obesity at scale, including preparing the infrastructure for commercialization. The individual goals were designed to measure each officer's individual contribution to the corporate goals and his or her individual performance.

Pursuant to the terms of their respective agreements governing their employment relationships, in each case as described below under "Employment Agreements," the annual target bonus opportunities for Dr. Gottesdiener, Mr. Smith, and Ms. Desikan are determined annually by the Compensation Committee. For the year ended December 31, 2019, Dr. Gottesdiener's target bonus amount was 55% of his base salary, Mr. Smith's target bonus amount was 40% of his base salary, and Ms. Desikan's target bonus amount was 40% of her base salary. After the end of 2019, the Compensation Committee determined that the Company had achieved the corporate goals at 95% of target. The Compensation Committee also reviewed and approved each named executive officer's achievement of his or her respective individual goals as follows: Dr. Gottesdiener: 100% of target, Mr. Smith: 105% of target, and Ms. Desikan: 100% of target. Based on the weighted achievement scores, Dr. Gottesdiener received a bonus of \$277,340, Mr. Smith received a bonus of \$153,224, and Ms. Desikan received a bonus of \$145,117.

Equity Compensation

We make annual grants of stock options to our named executive officers as the long-term incentive component of our compensation program. In February 2019, we granted to Dr. Gottesdiener, Mr. Smith and Ms. Desikan options to purchase 225,000, 70,000, and 70,000 shares of our common stock, respectively. Each option vests in sixteen equal quarterly installments beginning on May 13, 2019, subject to the named executive officer's continued service to the Company on each applicable vesting date.

Outstanding Equity Awards at 2019 Fiscal Year End

The following table provides information about outstanding equity awards held by each of our named executive officers at December 31, 2019.

Name	Vesting Commencement Date(2)	Option Awards(1)			
		Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date
Keith M. Gottesdiener, M.D.(7)	7/3/2015(3)	117,280	—	\$ 4.59	11/16/2025
	7/3/2015(3)	57,252	—	\$ 7.52	12/30/2025
	12/6/2016(3)	163,584	54,517	\$ 6.14	4/4/2027
	2/14/2018(4)	76,562	98,438	\$ 25.79	2/13/2028
Hunter C. Smith	2/13/2019(4)	42,187	182,813	\$ 29.78	2/12/2029
	7/31/2018(5)	105,887	79,857	\$ 6.88	8/8/2027
	2/14/2018(4)	26,687	34,313	\$ 25.79	2/13/2028
Nithya Desikan	2/13/2019(4)	13,125	56,875	\$ 29.78	2/12/2029
	7/23/2017(6)	70,580	66,915	\$ 6.88	8/8/2027
	2/14/2018(4)	26,687	34,313	\$ 25.79	2/13/2028
	2/13/2019(4)	13,125	56,875	\$ 29.78	2/12/2029

- (1) Upon an option holder's termination of employment on account of the option holder's death or disability, these options expire on the first anniversary of the option holder's termination. If an option holder's employment terminates for any other reason, these options expire three months after the option holder's termination.
- (2) If the option holder's employment is terminated within the three months preceding or the 12 months immediately following a change of control of us, 100% of the option holder's equity awards will become immediately exercisable.
- (3) These options vest in 48 equal monthly installments following the vesting commencement date, except that the last installment, if necessary, may be smaller.
- (4) These options vest in 16 equal quarterly installments following the vesting commencement date, except that the last installment, if necessary, may be smaller.
- (5) 50,436 of these options vested on July 31, 2018, and the remaining options vest in 36 monthly installments, starting on August 31, 2018, except that the last installment, if necessary, may be smaller.
- (6) 32,715 of these options vested on July 23, 2017, 42,257 of these options vested on July 23, 2018, and the remaining options vest in 36 monthly installments, starting on August 23, 2018, except that the last installment, if necessary, may be smaller.
- (7) Pursuant to the separation agreement and consulting agreement entered into with Dr. Gottesdiener in January 2020, Dr. Gottesdiener will continue to provide consulting services following his separation from the Company, and during the term of his consultancy, Dr. Gottesdiener's stock options will continue to vest. In addition, certain stock options will remain exercisable until December 31, 2022. See below under "Employment Arrangements—Agreements with Dr. Gottesdiener" for a description of the separation agreement and consulting agreement.

401(k) Plan

We maintain a tax-qualified retirement plan that provides eligible U.S. employees with an opportunity to save for retirement on a tax advantaged basis. Eligible employees are able to defer eligible compensation up to certain limits under the Internal Revenue Code of 1986, as amended, or the Code, which are updated annually. We have the ability to make matching and discretionary contributions to the 401(k) plan but did not do so for 2019. Beginning on January 1, 2020, we began matching 50% of the first 5% of eligible compensation contributed by participants in the 401(k) plan. Employee contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. Employees are immediately and fully vested in their own contributions, and Company matching contributions are subject to graded vesting over a three-year employment period. The 401(k) plan is intended to be qualified under Section 401(a) of the Code, with the related trust intended to be tax exempt under Section 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) plan are deductible by us when made, and contributions and earnings on those amounts are not taxable to the employees until withdrawn or distributed from the 401(k) plan.

Employment Arrangements

Below are descriptions of our employment arrangements with each of our named executive officers.

Agreements with Dr. Gottesdiener. We were previously party to a letter agreement with Dr. Gottesdiener, which set forth the terms and conditions of his employment with us as our Chief Executive Officer and President. Under Dr. Gottesdiener's letter agreement, he was entitled to a base salary and was eligible to receive an annual target performance bonus based on a percentage of his base salary, each as determined and as may be adjusted by the Compensation Committee, and was entitled to certain severance benefits as described below.

Upon a termination without "cause" or for "good reason" unrelated to a "change of control" (each, as defined in the letter agreement), subject to customary conditions, including his execution and nonrevocation of an acceptable release, Dr. Gottesdiener, would have been entitled to receive a severance payment in an aggregate amount equal to 12 months of his base salary then in effect, paid in substantially equal installments over a period of 12 months in accordance with ordinary payroll practices. Dr. Gottesdiener would also have received reimbursement for COBRA premiums for up to 12 months following such termination.

Upon a termination without "cause" or for "good reason" within the three months immediately preceding or the 12 months immediately following a "change of control", subject to customary conditions, including his execution and nonrevocation of an acceptable release, Dr. Gottesdiener, in lieu of the above benefits, would have been entitled to receive a severance payment in an aggregate amount equal to 18 months of his base salary then in effect plus 100% of his annual target bonus for the year in which the termination occurs, paid in substantially equal installments over a period of 18 months, in accordance with ordinary payroll practices. Mr. Gottesdiener would also receive reimbursement for COBRA premiums for up to 18 months following such termination. In addition, each unvested equity award held by Dr. Gottesdiener granted by the Company would immediately become fully vested.

The letter agreement also contained a parachute payment "best pay" provision, under which payments and benefits pursuant to the letter agreement or otherwise would either be made to Dr. Gottesdiener in full or as to such lesser amount as which would result in no portion of the payments and benefits being subject to an excise tax under Section 4999 of the Code, whichever of the foregoing amounts is greater on an after-tax basis.

On January 6, 2020, we entered into a separation agreement and a consulting agreement with Dr. Gottesdiener. Dr. Gottesdiener's separation was effective March 27, 2020. Pursuant to the separation agreement, subject to his execution and non-revocation of a release of claims, Dr. Gottesdiener is eligible to receive severance equal to his annual base salary of \$530,874, payable over 12 months in accordance with the Company's standard payroll practices, an additional monthly payment of \$1,200 that Dr. Gottesdiener may use to cover a portion of his healthcare costs, reimbursement of up to \$1,000 in moving expenses to move his personal furniture from his office, extended exercisability of certain of his outstanding options until December 31, 2022, and an additional lump sum cash amount of \$26,182. The Company may also award Dr. Gottesdiener a pro-rated 2020 annual incentive bonus, subject to discretion of the Board, in an amount to be determined by the Board. Dr. Gottesdiener is also entitled to payment or reimbursement of up to \$20,000 in attorneys' fees in connection with the preparation of the separation agreement and consulting agreement. In the event of a change in control within three months following Dr. Gottesdiener's separation date, Dr. Gottesdiener will be eligible to receive the change in control severance benefits under his letter agreement.

Pursuant to the consulting agreement, Dr. Gottesdiener will provide consulting services to the Company for up to 10 hours per month for a fee of \$10,000 per month. During the term of his consultancy, Dr. Gottesdiener's stock options will continue to vest, and certain stock options remain exercisable until December 31, 2022. The initial term of the consulting agreement ends on December 31, 2020 and may be extended by the Company in its sole discretion.

Agreements with Mr. Smith and Ms. Desikan. Under the letter agreements with each of Mr. Smith and Ms. Desikan, the named executive officer is entitled to a base salary and is eligible to receive an annual target performance bonus based on a percentage of his or her base salary, each as determined and may be adjusted by the Compensation Committee, and is entitled to certain severance benefits as described below.

Upon a termination without "cause" or for "good reason" unrelated to a "change of control" (each, as defined in the letter agreement), subject to customary conditions, including his or her execution and nonrevocation of an acceptable release, the named executive officer, will be entitled to receive a severance payment in an aggregate amount equal to nine months of his or her base salary then in effect, paid in substantially equal installments over a period of nine months, in accordance with ordinary payroll practices. The named executive officer will also receive reimbursement for COBRA premiums for up to nine months following such termination.

Upon a termination without "cause" or for "good reason" within the three months immediately preceding or the 12 months immediately following a "change of control", subject to customary conditions, including his or her execution and nonrevocation of an acceptable release, the named executive officer, in lieu of the above benefits, will be entitled to receive a severance payment in an aggregate amount equal to 12 months of his or her base salary then in effect plus 100% of his or her annual target bonus for the year in which the termination occurs, paid in substantially equal installments over a period of 12 months, in accordance with ordinary payroll practices. The named executive officer will also receive reimbursement for COBRA premiums for up to 12 months following such termination. In addition, each unvested equity award held by the named executive officer granted by us will immediately become fully vested.

The letter agreements also contain a parachute payment "best pay" provision, under which payments and benefits pursuant to the letter agreement or otherwise will either be made to the named executive officer in full or as to such lesser amount as which would result in no portion of the payments and benefits being subject to an excise tax under Section 4999 of the Code, whichever of the foregoing amounts is greater on an after-tax basis

Compensation Consultant

In connection with our executive compensation review, in 2019 our Compensation Committee engaged Radford to provide our Compensation Committee guidance with respect to the development and implementation of our compensation programs.

Our Compensation Committee charter requires that it select a compensation consultant only after considering all factors relevant to such consultant's independence from management. During 2019, Radford did not provide services to us other than the services described in this Proxy Statement. Our Compensation Committee has determined that Radford is independent and that its work does not raise any conflict of interest.

Equity Compensation Plan Information

The following table provides information as of December 31, 2019, regarding our common stock that may be issued under (1) our 2017 Equity Incentive Plan, or the 2017 Plan; and (2) our 2017 Employee Stock Purchase Plan, or the 2017 ESPP.

<u>Plan Category:</u>	<u>Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights</u>	<u>Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights</u>	<u>Number of Securities Available for Future Issuance Under Equity Compensation Plans</u>
Equity compensation plans approved by stockholders			
2017 Plan(1)	3,428,497	\$ 21.17	2,505,267
2017 ESPP(2)	—	—	591,077(3)
Equity compensation plans not approved by stockholders	—	—	—
Total	3,428,497	\$ 21.17	3,096,344

- (1) The 2017 Plan provides for an annual increase on each January 1 commencing on January 1, 2018, by an amount equal to 4% of the number of shares of common stock outstanding as of the end of the immediately preceding fiscal year, provided that the Board may provide for no increase or that the increase will be a lesser number of shares.
- (2) The 2017 ESPP provides for an annual increase on each January 1 commencing on January 1, 2018 and ending on and including January 1, 2027, by an amount equal to the lesser of (i) 1% of the number of shares of common stock outstanding as of the end of the immediately preceding fiscal year or (ii) 682,102, provided that the Board may provide for no increase or that the increase will be a lesser number of shares.
- (3) 18,673 shares were issued pursuant to the 2017 ESPP with respect to the purchase period in effect as of December 31, 2019, which purchase period ended on February 29, 2020.

AUDIT COMMITTEE REPORT

The report of the Audit Committee is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934, both as amended.

The Audit Committee has reviewed Rhythm's audited consolidated financial statements for the year ended December 31, 2019 and has discussed these statements with management and Ernst & Young LLP, or Ernst & Young, the Company's independent registered public accounting firm. Rhythm management is responsible for the preparation of the Company's financial statements and for maintaining an adequate system of disclosure controls and procedures and internal control over financial reporting for that purpose. The independent registered public accounting firm audits the annual consolidated financial statements prepared by management, expresses an opinion as to whether those consolidated financial statements present fairly the consolidated financial position, results of operations and cash flows of Rhythm in conformity with U.S. generally accepted accounting principles and discusses any issues they believe should be raised with us. The Audit Committee is responsible for providing independent, objective oversight of the Company's accounting functions and internal controls.

The Audit Committee also received from, and discussed with, Ernst & Young the written disclosures and other communications that the Company's independent registered public accounting firm is required to provide to the Audit Committee, including the matters required to be discussed by Statement on Auditing Standards No. 1301, as amended (Communication with Audit Committees), as adopted by the Public Company Accounting Oversight Board, or PCAOB, in Rule 3200T.

Ernst & Young also provided the Audit Committee with the written disclosures and the letter required by the PCAOB requiring independent registered public accounting firms to annually disclose in writing all relationships that, in their professional opinion may reasonably be thought to bear on independence, to confirm their perceived independence and to engage in a discussion of independence. The Audit Committee has reviewed this disclosure and has discussed with Ernst & Young their independence from Rhythm.

Based on its discussions with management and our independent registered public accounting firm as outlined above, and its review of the representations and information provided by management and our independent registered public accounting firm, the Audit Committee recommended to the Board that the audited consolidated financial statements be included in the Rhythm Annual Report on Form 10-K for the year ended December 31, 2019, for filing with the Securities and Exchange Commission.

Respectfully submitted by the Audit Committee,

David W.J. McGirr, *Chair*

Christophe R. Jean

David P. Meeker, M.D.

**PROPOSAL NO. 2—RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED
PUBLIC ACCOUNTING FIRM**

We are asking our stockholders to ratify the Audit Committee's selection of Ernst & Young LLP, or Ernst & Young, as our independent registered public accounting firm for the fiscal year ending December 31, 2020. Ernst & Young has served as our independent registered public accounting firm since 2015.

The Audit Committee annually reviews the independent registered public accounting firm's independence, including reviewing all relationships between the independent registered public accounting firm and us and any disclosed relationships or services that may impact the objectivity and independence of the independent registered public accounting firm, and the independent registered public accounting firm's performance.

Although stockholder ratification is not required by our bylaws or otherwise, the Board believes it is advisable to provide stockholders an opportunity to ratify this selection and is submitting the selection of Ernst & Young to our stockholders for ratification as a matter of good corporate practice. If the selection is not ratified, the Audit Committee will consider whether it is appropriate to select another independent registered public accounting firm, but is not required to do so. Even if the selection is ratified, the Audit Committee in its discretion may select a different registered public accounting firm at any time during the year if the Audit Committee determines that such a change would be in the best interests of Rhythm and its stockholders.

We expect that a representative of Ernst & Young will attend the Annual Meeting and will have an opportunity to make a statement if he or she so chooses and will be available to respond to appropriate questions from stockholders.

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm

The Audit Committee pre-approves all audit services, and permitted non-audit services (including the fees and terms thereof) to be performed by Ernst & Young, subject to the de minimis exception for non-audit services that are approved by the Audit Committee prior to the completion of an audit. The Audit Committee may delegate pre-approval authority to one or more members of the Audit Committee consistent with applicable law and listing standards, provided that the decisions of such Audit Committee member or members must be presented to the full Audit Committee at its next scheduled meeting.

Principal Accountant Fees and Services

We regularly review the services and fees of Ernst & Young LLP. These services and fees are also reviewed by the Audit Committee on an annual basis. The following table sets forth all fees paid or accrued by us for professional audit services and other services rendered by Ernst & Young LLP during the years ended December 31, 2019 and 2018:

<u>Fee Category</u>	<u>2018</u>	<u>2019</u>
Audit Fees	\$ 534,000	\$ 575,100
Audited Related Fees	—	—
Tax Fees	\$ 35,400	\$ 32,500
All Other Fees	—	\$ 3,345
Total Fees	<u>\$ 569,400</u>	<u>\$ 610,945</u>

Audit Fees. Consist of aggregate fees for professional services provided in connection with the annual audit of our consolidated financial statements, the review of our quarterly condensed consolidated financial statements, consultations on accounting matters directly related to the audit, and comfort letters, consents and assistance with and review of documents filed with the SEC.

Tax Fees. Consist of aggregate fees for tax compliance, tax advice and tax planning services including the review and preparation of our federal and state income tax returns.

All Other Fees. Consist of aggregate fees billed for products and services provided by the independent registered public accounting firm other than those fees disclosed above. For the year ended December 31, 2019, the other fees consist of fees billed related to our Ernst & Young research website membership.

The Audit Committee pre-approved all services performed since the pre-approval policy was adopted.

The affirmative vote of a majority of shares of our common stock, present online or represented by proxy at the Annual Meeting and entitled to vote, is required to ratify the selection of our independent auditors.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" THE RATIFICATION OF THE SELECTION OF ERNST & YOUNG AS THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM.

(PROPOSAL NO. 2)

BENEFICIAL OWNERSHIP OF COMMON STOCK

The following table sets forth certain information as of April 20, 2020 (unless otherwise specified), with respect to the beneficial ownership of our common stock by each person who is known to own beneficially more than 5% of the outstanding shares of common stock, each person currently serving as a director, each director nominee, each named executive officer, and all directors and executive officers as a group).

Shares of common stock subject to options or other rights to purchase which are now exercisable or are exercisable within 60 days after April 20, 2020, are to be considered outstanding for purposes of computing the number of shares beneficially owned and the percentage ownership of the persons holding these options or other rights, but are not to be considered outstanding for the purpose of computing the number of shares beneficially owned or the percentage ownership of any other person. As of April 20, 2020, there were 44,091,798 shares of common stock outstanding. Unless otherwise

indicated, the address for each beneficial owner is c/o Rhythm Pharmaceuticals, Inc., 222 Berkeley Street, 12th Floor, Boston, MA 02116.

<u>Name and Address of Beneficial Owner</u>	<u>Number of Shares Beneficially Owned†</u>	<u>Percentage of Shares Beneficially Owned</u>
5% or Greater Stockholders:		
Entities affiliated with RA Capital Management, LLC(1) c/o RA Capital Management, LLC 200 Berkeley Street, 18th Floor, Boston, MA 02116	5,422,312	12.3%
Entities affiliated with New Enterprise Associates 13, L.P.(2) New Enterprise Associates 1954 Greenspring Drive, Suite 600 Timonium, MD 21093	4,912,306	11.1%
Janus Henderson Group plc(3) 201 Bishopsgate EC2M 3AE United Kingdom	4,305,248	9.8%
Entities affiliated with Deerfield Partners, L.P.(4) 780 Third Avenue, 37th Floor New York, NY 10017	4,289,291	9.7%
Entities affiliated with Wellington Management Group LLP(5) c/o Wellington Management Company LLP 280 Congress Street Boston, MA 02210	3,320,751	7.5%
Entities affiliated with Baker Bros. Advisors LP(6) c/o Baker Bros. Advisors LP 860 Washington Street, 3rd Floor New York, NY 10014	2,708,200	6.1%
BlackRock, Inc.(7) 55 East 52nd Street New York, NY 10055	2,554,766	5.8%
Entities affiliated with MPM Asset Management(8) c/o MPM Asset Management 450 Kendall Street Cambridge, MA 02142	2,324,893	5.3%
Directors and Named Executive Officers:		
Keith M. Gottesdiener(9)	1,049,083	2.4%
Hunter C. Smith(10)	204,214	*
Nithya Desikan(11)	178,440	*
Todd Foley(12)	2,349,893	5.2%
Edward T. Mathers(13)	25,000	*
Stuart Arbuckle	—	*
Jennifer Good(14)	10,000	*
Christophe R. Jean(15)	25,000	*
David P. Meeker, M.D.(16)	235,386	*
David W.J. McGirr(17)	112,241	*
All executive officers and directors as a group (11 persons)(18)	4,302,539	9.49%

* Represents beneficial ownership of less than 1%.

† None of the shares are pledged as security.

(1) Based solely on a Schedule 13G/A filed on October 18, 2019. Consists of 4,599,403 shares held directly by RA Capital Healthcare Fund, L.P., or RAC Healthcare, and 822,909 shares held in a

separately managed account, or the Account. RA Capital Management, LLC, or RA Capital, is the general partner of RAC Healthcare and serves as investment adviser for the Account. RA Capital and Peter Kolchinsky, as the manager of RA Capital, may be deemed to have shared voting and dispositive power over the shares directly owned by RA Capital and the Account. RAC Healthcare has delegated to RA Capital the sole power to vote and dispose of all securities held by RAC Healthcare and may not revoke that delegation on less than 61 days' notice. RAC Healthcare and Dr. Kolchinsky each disclaim beneficial ownership of all shares held by RAC Healthcare.

- (2) Based on a Schedule 13D filed on October 13, 2017 and other information known to the Company. Consists of shares held directly by New Enterprise Associates 13, L.P., or NEA 13. Includes 2,350 shares held directly by NEA Ventures 2009, L.P. The shares held directly by NEA 13 are indirectly held by NEA Partners 13, L.P., or Partners 13, which is the sole general partner of NEA 13, NEA 13 GP, LTD, or NEA 13 LTD, which is the sole general partner of Partners 13, and each of the individual directors of NEA 13 LTD. The individual directors of NEA 13 LTD, or the NEA 13 Directors, are M. James Barrett, Peter J. Barris, Forest Baskett, Patrick J. Kerins, David M. Mott, Scott D. Sandell and Ravi Viswanathan. NEA Partners 13, NEA 13 LTD, and the NEA 13 Directors share voting and dispositive power over the shares held directly by NEA 13. All indirect holders of the above referenced shares disclaim beneficial ownership of the shares. The address of the principal business office of NEA 13, Partners 13 and NEA 13 LTD is referenced above. The address of the principal business office of each of Mr. Barrett, Mr. Barris, Mr. Kerins and Mr. Mott is New Enterprise Associates, 5425 Wisconsin Avenue, Suite 800, Chevy Chase, MD 20815. The address of the principal business office of Mr. Baskett, Mr. Sandell, and Mr. Viswanathan is New Enterprise Associates, 2855 Sand Hill Road, Menlo Park, California 94025.
- (3) Based solely on a Schedule 13G/A filed on February 13, 2020. Janus Henderson Group plc has a 100% ownership stake in Janus Capital Management LLC, or Janus Capital. Janus Capital is an investment advisor furnishing investment advice to various fund, individual, and institutional clients, or the Managed Portfolios, and may be deemed to be the beneficial owners of the shares held by the Managed Portfolios. Janus Capital does not have the right to receive any dividends from, or the proceeds from the sale of, the securities held in the Managed Portfolios and disclaims any ownership associated with such rights.
- (4) Based solely on a Schedule 13G/A filed on February 13, 2020. Consists of 3,998,286 shares held directly Deerfield Partners, L.P., or Deerfield Partners, and 291,005 shares held directly Deerfield Private Design Fund III, L.P., or Design Fund. Each of Deerfield Partners and Design Fund has shared voting and dispositive power over the shares held directly by it. Deerfield Mgmt III, L.P. is the general partner of Design Fund and has shared voting and investment power over the shares held by Design Fund. Deerfield Mgmt, L.P. is the general partner of Deerfield Partners and has shared voting and dispositive power over the shares held by Deerfield Partners. Deerfield Management Company, L.P., the investment advisor of Deerfield Partners and Design Fund, and James E. Flynn each has shared voting and investment power over the shares held by Deerfield Partners and Design Fund. All indirect holders of the above referenced shares disclaim beneficial ownership of the shares.
- (5) Based solely on a Schedule 13G filed on January 28, 2020. Consists of shares of our common stock owned of record by clients of one or more investment advisers, or the Wellington Investment Advisers, including Wellington Management Company LLP, or WMC. Wellington Management Group LLP, or WMG, is a parent holding company of WMC. Wellington Investment Advisors Holdings LLP, or WIAH, controls directly, or indirectly through Wellington Management Global Holdings, Ltd., the Wellington Investment Advisers. WIAH is owned by Wellington Group Holdings LLP, or WGH, and WMG is the owner of WGH. Each of WMG, WGH and WIAH has shared voting power over 3,082,138 shares and shared dispositive power over all of the above referenced shares. WMC has shared voting power over 3,026,983 shares and shared dispositive

power over 3,186,449 shares. All indirect holders of the above referenced shares disclaim beneficial ownership of the shares.

- (6) Based solely on a Schedule 13G filed on February 13, 2019. Consists of 236,808 shares held directly by 667, L.P., or 667 LP, and 2,471,392 shares held directly by Baker Brothers Life Sciences, L.P., or Baker Brothers Life Sciences. Baker Bros. Advisors LP, or Baker Bros. Advisors, is the investment adviser to 667 LP and Baker Brothers Life Sciences, and, pursuant to amended and restated management agreements between Baker Bros. Advisors, 667 LP and Baker Brothers Life Sciences and the respective general partners of 667 LP and Baker Brother Life Sciences, Baker Bros. Advisors has complete and unlimited discretion and authority with respect to the investments and voting power over investments of 667 LP and Baker Brothers Life Sciences. Baker Bros. Advisors (GP) LLC, or Advisors GP, is the general partner of Baker Bros. Advisors. Advisors GP, Felix J. Baker and Julian C. Baker as managing members of Advisors GP, and Baker Bros. Advisors may be deemed to have sole voting and dispositive power over the shares held directly by 667 LP and Baker Brothers Life Sciences, and each disclaims beneficial ownership of all shares held by 667 LP and Baker Brothers Life Sciences.
- (7) Based solely on a Schedule 13G filed on February 7, 2020. BlackRock, Inc. has sole voting power over 2,506,618 shares and sole dispositive power over 2,554,766 shares.
- (8) Based solely on a Schedule 13D/A filed on February 5, 2020 and a Form 4 filed by Todd Foley on April 1, 2020. Consists of 2,237,952 shares of our common stock held directly by MPM BioVentures V, L.P., or BV V, and 86,941 shares of our common stock held directly by MPM Asset Management Investors BV5 LLC, or AM LLC. Each of BV V and AM LLC has sole voting and dispositive power over the shares held directly by it. MPM BioVentures V LLC, or BV V LLC, is the Managing Member of MPM BioVentures V GP LLC, or BV V GP, which is the General Partner of BV V. Each of Todd Foley, one of our directors, Luke Evnin and Ansbert Gadicke is a Member of BV V LLC and, along with BV V GP and BV V LLC, shares voting and dispositive power over the shares held by BV V. Mr. Foley, Mr. Evnin and Mr. Gadicke are the members of AM LLC and share voting and dispositive power over the shares held by AM LLC. Mr. Foley, Mr. Evnin and Mr. Gadicke each disclaims beneficial ownership of all shares held by BV V and AM LLC.
- (9) Consists of (i) 561,658 shares of common stock and (ii) 487,425 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.
- (10) Consists of (i) 29,650 shares of common stock and (ii) 174,564 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.
- (11) Consists of (i) 29,068 shares of common stock and (ii) 149,372 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.
- (12) Consists of (i) 25,000 shares of common stock underlying stock options exercisable within 60 days of April 20, 2020, and (ii) (a) 2,237,952 shares of common stock held by BV V, and (b) 86,941 shares of common stock held by AM LLC, which Mr. Foley may be deemed to beneficially own. See footnote (8) above. Mr. Foley disclaims beneficial ownership of such shares.
- (13) Consists of 25,000 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020. Mr. Mathers is a partner of New Enterprise Associates, Inc. Mr. Mathers does not have voting or dispositive power over any of the shares directly held by NEA 13 referenced in footnote (2) above.
- (14) Consists of 10,000 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.
- (15) Consists of 25,000 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.

- (16) Consists of (i) 101,335 shares of common stock and (ii) 134,051 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.
- (17) Consists of 112,241 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.
- (18) Consists of (i) 3,047,199 shares of common stock and (ii) 1,255,340 shares of common stock underlying options that are exercisable within 60 days of April 20, 2020.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Related Party Transactions Policy

Our Board has adopted a policy that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of any class of our common stock and any members of the immediate family of any of the foregoing persons are not permitted to enter into a related person transaction with us without the prior review and approval of our Governance and Nominating Committee. Any request for us to enter into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5% of any class of our common stock or any member of the immediate family of any of the foregoing persons in which the amount involved exceeds \$120,000 and such person would have a direct or indirect material interest must first be presented to our Governance and Nominating Committee for review, consideration and approval. In approving or rejecting any such proposal, our Governance and Nominating Committee is to consider the material facts of the transaction, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person's interest in the transaction.

Since January 1, 2018, we have been a party to the following transactions or series of similar transactions, in which:

- the amounts involved exceeded or will exceed the lesser of \$120,000 or 1% of the average of the Company's total assets at fiscal year-end for the last two completed years; and
- any of the directors, nominees for election as a director, executive officers or holders of more than 5% of our voting equity, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

Compensation termination, change in control and other arrangements for our directors and named executive officers are described under "Executive Compensation."

June 2018 Public Offering

In June 2018, we completed a follow-on public offering, which resulted in the issuance and sale of 6,591,800 shares of common stock (including 859,800 shares sold pursuant to the underwriters' full exercise of their option to purchase additional shares) at a public offering price of \$26.42 per share, generating net proceeds of \$162.9 million after deducting underwriting discounts and other offering costs. The following table sets forth the number of shares of common stock purchased in the offering by directors (and related parties thereto) and holders of more than 5% of our common stock:

<u>Participants</u>	<u>Total Shares Purchased</u>	<u>Aggregate Purchase Price</u>
Greater than 5% Stockholders (1)		
Entities affiliated with MPM Asset Management(2)	378,501	\$ 26.42
Entities affiliated with Baker Bros. Advisors LP	659,180	\$ 26.42

- (1) Additional details regarding these stockholders and their equity holdings are provided in this Proxy Statement under the caption "Security Ownership of Certain Beneficial Owners and Management."
- (2) Todd Foley, a member of our Board, is affiliated with MPM Asset Management.

October 2019 Public Offering

In October 2019, we completed a follow-on public offering, which resulted in the issuance and sale of 9,324,324 shares of common stock (including 1,216,216 shares sold pursuant to the underwriters' full exercise of their option to purchase additional shares) at a public offering price of \$18.50 per share, generating net proceeds of \$161.4 million after deducting underwriting discounts and other offering costs. The following table sets forth the number of shares of common stock purchased in the offering by holders of more than 5% of our common stock:

<u>Participants</u>	<u>Total Shares Purchased</u>	<u>Aggregate Purchase Price</u>
Greater than 5% Stockholders (1)		
Entities affiliated with RA Capital Management, LLC	2,000,000	\$ 18.50
Entities affiliated with Deerfield Partners, L.P.	1,700,000	\$ 18.50
Janus Henderson Group plc	750,000	\$ 18.50

- (1) Additional details regarding these stockholders and their equity holdings are provided in this Proxy Statement under the caption "Security Ownership of Certain Beneficial Owners and Management."

GENERAL MATTERS

Availability of Certain Documents

A copy of our Annual Report on Form 10-K for the year ended December 31, 2019 (the "2019 Annual Report on Form 10-K") has been posted on our website along with this Proxy Statement at www.edocumentview.com/RVTM or www.rhythmtx.com under "Investors & Media" at "SEC Filings." We will mail without charge, upon written request, a copy of our 2019 Annual Report on Form 10-K including financial statements and schedules thereto but excluding exhibits. A reasonable fee will be charged for copies of exhibits. Please send a written request to our Secretary at:

Rhythm Pharmaceuticals, Inc.
222 Berkeley Street, 12th Floor
Boston, MA 02116
Attention: Secretary

You may also find a copy of this Proxy Statement and our 2019 Annual Report on Form 10-K (with exhibits) on the SEC's website at www.sec.gov.

Stockholders Sharing an Address / Householding

The SEC has adopted rules that permit companies and intermediaries (such as banks and brokers) to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single proxy statement addressed to those stockholders. This process, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

Only one copy of our 2019 Annual Report and this Proxy Statement is being delivered to multiple stockholders sharing an address, unless we have received contrary instructions from one or more of the stockholders.

We will undertake to deliver promptly, upon written or oral request, a separate copy to a stockholder at a shared address to which a single copy of the 2019 Annual Report and this Proxy Statement was delivered. To receive a separate copy of our 2019 Annual Report or Proxy Statement, or to receive separate copies in the future, or if two stockholders sharing an address have received two copies of any of these documents and desire to only receive one, you may write the Secretary of Rhythm Pharmaceuticals, Inc. at our principal executive offices at 222 Berkeley Street, 12th Floor, Boston, MA 02116 or call the Secretary at (857) 264-4280.

Stockholder Proposals and Nominations

Stockholder Proposals to be Considered for Inclusion in our Proxy Materials. Under Rule 14a-8 of the Exchange Act, to submit a proposal for inclusion in our Proxy Statement for the 2021 Annual Meeting of Stockholders, stockholder proposals must be received no later than close of business on December 30, 2020, by our Secretary at our principal executive offices at 222 Berkeley Street, 12th Floor, Boston, MA 02116.

Other Proposals or Nominees for Presentation at the 2021 Annual Meeting. Our bylaws provide that, for stockholder nominations to the Board or other business to be considered at the 2021 Annual Meeting of Stockholders, the stockholder must have given timely notice thereof in writing to the Secretary at Rhythm Pharmaceuticals, Inc., 222 Berkeley Street, 12th Floor, Boston, MA 02116 between February 17, 2021 and March 19, 2021 (assuming the date of the 2021 Annual Meeting of Stockholders is not so advanced or delayed as described in our bylaws). To be timely for the 2021 Annual Meeting of Stockholders, the stockholder's notice must be delivered to or mailed and received by us not earlier than the close of business on the 120th day nor later than the close of business on the

90th day prior to the anniversary date of the previous year's annual meeting, except that if the annual meeting is scheduled more than 30 days before or 60 days after such anniversary date, we must receive the notice not later than the close of business on the 10th day following the day on which we first provide notice or public disclosure of the date of the meeting. Such notice must provide the information required by Section 2.12 of our bylaws with respect to each nomination or matter the stockholder proposes to bring before the 2021 Annual Meeting of Stockholders.

Other Matters

As of the date of this Proxy Statement, the Board does not intend to present any matters other than those described herein at the Annual Meeting and is unaware of any matters to be presented by other parties. If other matters are properly brought before the meeting for action by the stockholders, proxies will be voted in accordance with the recommendation of the Board or, in the absence of such a recommendation, in accordance with the judgment of the proxy holder.

Whether or not you plan to attend the Annual Meeting virtually, we urge you to vote your shares promptly.

By Order of the Board of Directors

/s/ DAVID P. MEEKER, M.D.

David P. Meeker, M.D.
Chairman of the Board
April 29, 2020

Your vote matters – here's how to vote!

You may vote online or by phone instead of mailing this card.

Online - During the Meeting

Go to www.meetingcenter.io/271381767. To access the virtual meeting, you must have the information that is printed in the shaded bar located below. The password for the meeting is RYTM2020.

Online - Before the Meeting

Go to www.investorvote.com/RYTM or scan the QR code – login details are located in the shaded bar below.



Phone

Call toll free 1-800-652-VOTE (8683) within the USA, US territories and Canada



Save paper, time and money!

Sign up for electronic delivery at www.investorvote.com/RYTM

Using a **black ink** pen, mark your votes with an X as shown in this example. Please do not write outside the designated areas.



2020 Annual Meeting Proxy Card

▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

A Proposals – The Board of Directors recommend a vote **FOR** all the nominees listed and **FOR** Proposal 2.

1. Election of Class III directors, each to serve for a three year term until the 2023 Annual Meeting of Stockholders and until their respective successors are duly elected and qualified. +

Nominees

01 - David W.J. McGirr

02 - David P. Meeker, M.D.

Mark here to vote **FOR** all nominees

Mark here to **WITHHOLD** vote from all nominees

For All **EXCEPT** - To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.

2. To ratify the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2020.

For Against Abstain

B Authorized Signatures – This section must be completed for your vote to count. Please date and sign below.

Please sign exactly as name(s) appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, corporate officer, trustee, guardian, or custodian, please give full title.

Date (mm/dd/yyyy) – Please print date below.

Signature 1 – Please keep signature within the box.

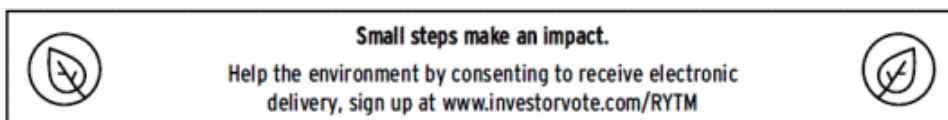
Signature 2 – Please keep signature within the box.



1 U P X



Important notice regarding the Internet availability of proxy materials for the Annual Meeting of Stockholders.
The Notice & Proxy Statement and Annual Report is available at: www.investorvote.com/RYTM



▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

Rhythm Pharmaceuticals, Inc.



2020 Annual Meeting of Stockholders

Proxy Solicited by Board of Directors for Annual Meeting – June 17, 2020, 2:00 PM Eastern Time

The undersigned stockholder(s) of Rhythm Pharmaceuticals, Inc. hereby appoint(s) Hunter C. Smith and Simon Kelner, or either of them, as proxies, each with the power to appoint his substitute, and hereby authorize(s) them to represent and to vote, as designated on the reverse side of this proxy card, all of the shares of Common stock of RHYTHM PHARMACEUTICALS, INC. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 2:00 PM, EDT on June 17, 2020, via a live webcast at www.meetingcenter.io/271381767, and any adjournment, continuation or postponement thereof.

Such proxies are authorized to vote in their discretion (x) for the election of any person to the Board of Directors if any nominee named herein becomes unable to serve or for good cause will not serve, (y) on any matter that the Board of Directors did not know would be presented at the Annual Meeting by a reasonable time before the proxy solicitation was made, and (z) on such other business as may properly be brought before the meeting or any adjournment, continuation or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein by the undersigned stockholder(s).

If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.

(Items to be voted appear on reverse side)

C Non-Voting Items

Change of Address – Please print new address below.

Comments – Please print your comments below.

