

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities
Exchange Act of 1934

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

<input type="checkbox"/>	Preliminary Proxy Statement
<input type="checkbox"/>	Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
<input checked="" type="checkbox"/>	Definitive Proxy Statement
<input type="checkbox"/>	Definitive Additional Materials
<input type="checkbox"/>	Soliciting Material under §240.14a-12



VERTEX PHARMACEUTICALS INCORPORATED

(Name of Registrant as Specified In Its Charter)

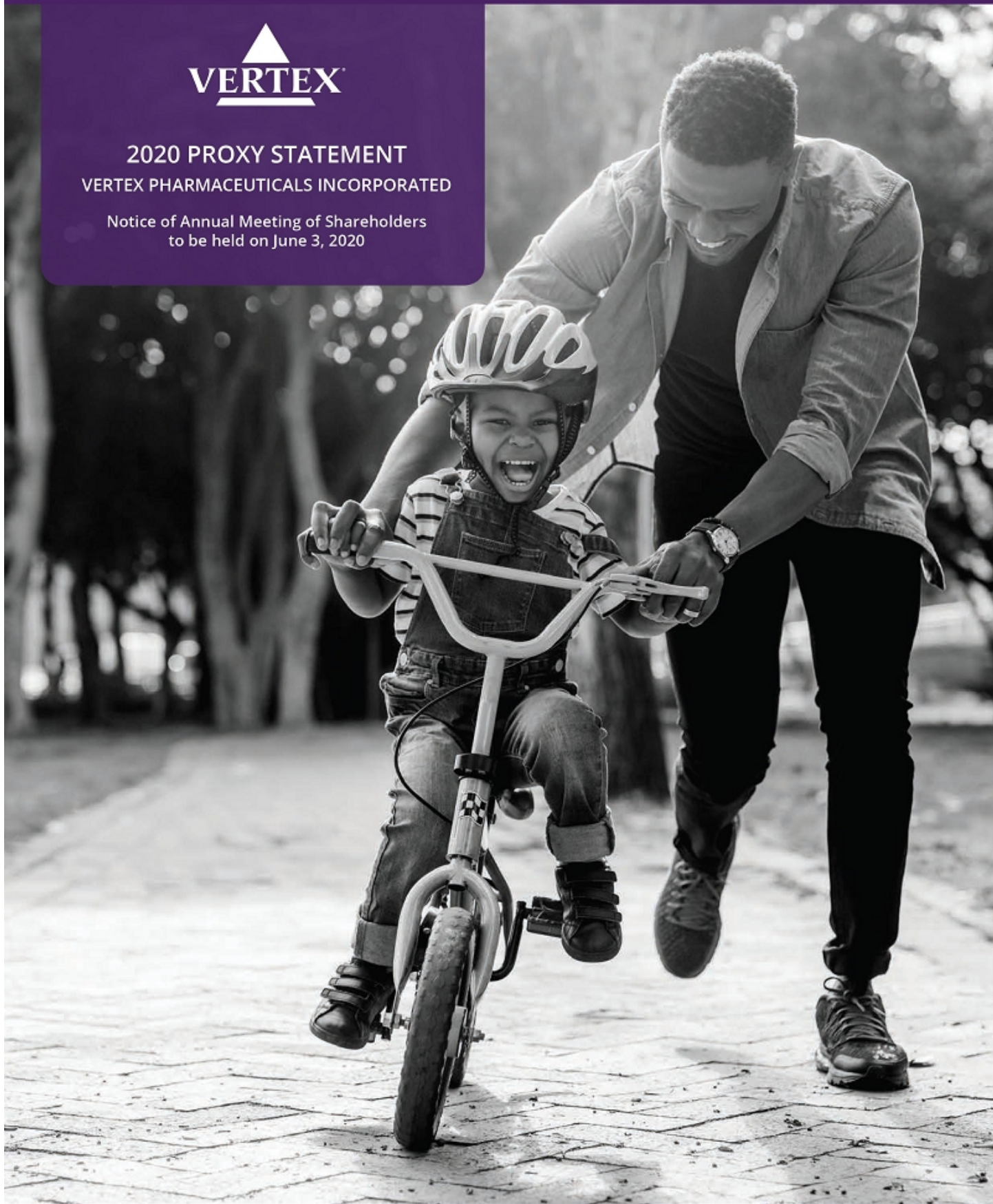
Payment of Filing Fee (Check the appropriate box):

<input checked="" type="checkbox"/>	No fee required.
<input type="checkbox"/>	Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11. (1) Title of each class of securities to which transaction applies: (2) Aggregate number of securities to which transaction applies: (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined): (4) Proposed maximum aggregate value of transaction: (5) Total fee paid:
<input type="checkbox"/>	Fee paid previously with preliminary materials.
<input type="checkbox"/>	Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing. (1) Amount Previously Paid: (2) Form, Schedule or Registration Statement No.: (3) Filing Party: (4) Date Filed:



2020 PROXY STATEMENT
VERTEX PHARMACEUTICALS INCORPORATED

Notice of Annual Meeting of Shareholders
to be held on June 3, 2020





Dear Shareholders:

2019 was a remarkable year for Vertex as all parts of our business - research, development, commercial and business development - performed at exceptional levels. Since 2012, we have executed on our corporate strategy of investing in scientific innovation to create transformative medicines for people with serious diseases in specialty markets - a strategy that we believe both maximizes benefits for patients and generates long-term value for shareholders. The disciplined execution of our strategy has enabled Vertex to serially innovate to discover and develop four transformative medicines that today have the potential to treat up to 90% of all cystic fibrosis (CF) patients around the world. In so doing we have grown from zero CF revenues in early 2012 to over \$4.0 billion in CF revenues in 2019, increased our operating margins to 29% GAAP and 45% Non-GAAP, and grown our market capitalization from approximately \$7 billion in early 2012 to over \$56 billion at the end of 2019.

In 2019, we achieved two significant milestones in CF. First, we obtained U.S. approval for TRIKAFTA, a medicine that is currently approved for the treatment of approximately 18,000 CF patients 12 years of age or older in the U.S. with the F508del mutation. We believe that TRIKAFTA holds the potential to be a highly effective treatment for approximately 90% of all CF patients in the future. We were able to accelerate the development of this triple-combination, taking less than four years from first synthesis in our labs to treating patients, and the FDA approval of this important medicine came five months ahead of our PDUFA date. Second, in late 2019, we reached reimbursement agreements in a number of countries outside the U.S., including England, Wales, Scotland, Northern Ireland, France, Spain and Australia, which meant more than 9,000 new patients gained access to our medicines. Moving forward, we are focused on obtaining approval for the triple-combination regimen in ex-U.S. markets, evaluating this treatment regimen in younger patients and developing genetic therapies for the remaining 10% of CF patients who may not be helped by our current CF medicines.

In 2019, we also made significant progress advancing and expanding our pipeline through continued investment in our productive internal research and development capabilities and approximately \$1.6 billion of investment in external innovation. Each of our pipeline programs is highly aligned to a research strategy focused on validated targets associated with serious diseases and biomarkers that improve the probability of clinical success. We are advancing multiple compounds and approaches across seven serious diseases --alpha-1 antitrypsin deficiency, APOL-1 mediated focal segmental glomerulosclerosis, pain, beta-thalassemia, sickle cell disease, type 1 diabetes and Duchenne muscular dystrophy -- and five of these programs are already in the clinic. Based on progress to date, we have initiated a Phase 2 proof-of-concept clinical trial for VX-814, a potential treatment for the underlying cause of alpha-1 antitrypsin deficiency, and we expect to initiate a proof-of-concept clinical trial for VX-147, a potential treatment targeting a causal genetic factor in focal segmental glomerulosclerosis. In 2019, we also advanced the investigational CRISPR/Cas9 gene-editing therapy, CTX001, that we are co-developing with CRISPR, and announced positive, interim data from one patient with beta-thalassemia and one patient with sickle cell disease. This data represented the first human clinical data demonstrating the curative potential of gene editing in serious genetic diseases and underscored both the scientific potential of gene editing for these and other diseases and the importance of our business development strategy to gain access to external innovation. In 2019, we also acquired through business development efforts promising pre-clinical programs for type 1 diabetes (using cell therapy) and Duchenne muscular dystrophy (using gene editing). Our pipeline now spans multiple modalities, including small molecules, where Vertex has a long history of developing transformative medicines, and newer approaches such as cell and genetic therapies, where we have a broad portfolio of cell and genetic therapy technologies and capabilities.

The first quarter of 2020 was an extraordinary time for many businesses, with the rapid emergence of the COVID-19 outbreak around the world. Despite the disruption to many industries and businesses caused by the outbreak, Vertex remains well positioned. To date we have not seen any change to our business outlook for 2020. Our supply chain has been designed to be redundant and is not dependent on any single country, and we are therefore confident in our ability to continue to supply our approved medicines to all eligible patients globally. In an effort to keep our communities and employees safe, while continuing to deliver on our uncompromising commitment to patients we have successfully adjusted the way we work with the vast majority of our employees now working remotely. And while we do anticipate some delays in certain development programs as a result of the outbreak, it is currently too early to assess the effects of these delays on our new product development timelines.

In these extraordinary times, in addition to our focus on discovering transformative medicines and growing our business, we never lose sight of maintaining our corporate culture and being a good partner in the communities where we live and work. We have supported our communities in responding to the spread of COVID-19 with direct donations from The Vertex Foundation and working with business and community leaders to assist individuals and families affected by this disease. We have also continued to provide support for science, technology, engineering, arts and math (STEAM) education; our patient communities globally; and our local communities. Finally, we are proud of our long-standing commitment to diversity and inclusion on our board and in our workforce. 40% of our director nominees are women and 40% of our director nominees have racially or ethnically diverse backgrounds. Women represent 53% of our global workforce and 42% of our global leadership team. As we look towards the future, we will continue to deliver on our commitment to operating in a responsible and sustainable manner.

In summary, Vertex is stronger than ever as we continue to focus our efforts on bringing CF medicines to more patients, advancing our pipeline in multiple other serious diseases, growing both revenues and profits and utilizing our financial strength to continue to invest in internal and external innovation. The long-planned CEO transition and establishment of the Executive Chairman role occurred smoothly as expected on April 1st. In our roles as CEO and Executive Chairman, we are committed to continuing to execute on the corporate strategy of serial innovation that has been essential to Vertex's successes to date and that will be critical to our long-term success and in differentiating Vertex as we seek to deliver additional transformative medicines to patients.

Sincerely,



Jeffrey M. Leiden, M.D., Ph.D.
Executive Chairman



Reshma Kewalramani, M.D.
Chief Executive Officer and President



Notice of Annual Meeting of Shareholders

Wednesday, June 3, 2020

9:30 a.m. (Eastern Time)

www.meetingcenter.io/207970612

Dear Shareholders:

You are invited to attend Vertex Pharmaceuticals Incorporated 2020 Annual Meeting of Shareholders. At the annual meeting, shareholders will vote:

- to elect the ten director nominees that are set forth in the attached proxy statement to our board of directors to serve for a one-year term until the 2021 annual meeting of shareholders and until his or her successor has been duly elected and qualified;
- to ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for 2020;
- to approve our 2019 named executive officer compensation in an advisory vote; and
- on one proposal submitted by a shareholder, if properly presented at the meeting.

Shareholders also will transact any other business that may properly come before the annual meeting or any adjournment or postponement of the annual meeting.

We are using the "Notice and Access" method of providing proxy materials to you via the Internet. We are mailing to you a Notice of Internet Availability of Proxy Materials instead of paper copies of this notice, our proxy statement and our Annual Report on Form 10-K for the year ended December 31, 2019 ("Annual Report"). Notice and Access provides a convenient way for you to access our proxy materials. The Notice of Internet Availability of Proxy Materials includes instructions on how to access this notice, our proxy statement and our Annual Report and how to vote your shares. The Notice of Internet Availability of Proxy Materials also contains instructions on how to receive a paper copy of the proxy materials and our Annual Report, if you prefer.

IN LIGHT OF THE PUBLIC HEALTH AND TRAVEL SAFETY CONCERNS RELATED TO THE ONGOING SPREAD OF THE CORONAVIRUS (COVID-19), VERTEX HAS DECIDED TO HOLD A VIRTUAL MEETING. THE VIRTUAL ANNUAL MEETING WILL FACILITATE SHAREHOLDER ATTENDANCE AND PARTICIPATION BY ENABLING SHAREHOLDERS TO PARTICIPATE FROM ANY LOCATION AND AT NO COST. YOU WILL BE ABLE TO PARTICIPATE IN THE MEETING ONLINE AND VOTE YOUR SHARES ELECTRONICALLY BY VISITING WWW.MEETINGCENTER.IO/207970612.

Shareholders will need their unique control number, which appears on the Notice of Internet Availability or proxy card (printed in the shaded bar), or within the body of the email sending the proxy statement. If you hold shares beneficially through a bank, broker or other nominee (that is, in "street name"), you may participate in the annual meeting by registering in advance to gain access to the virtual meeting and to vote shares during the meeting. To register, you will need to obtain a legal proxy from your bank, broker or other nominee. Once you have received a legal proxy from them, you must submit your legal proxy reflecting your ownership of Vertex common stock, along with your name and email address to Computershare at legalproxy@computershare.com. Requests for registration must be labeled as "Legal Proxy" and received no later than 5:00 p.m., Eastern Time, on May 29, 2020. You will receive a confirmation email from Computershare of your registration and control number. You will need your control number to access the virtual annual meeting. The annual meeting will begin promptly at 9:30 a.m., Eastern Time, on June 3, 2020. The password for the meeting is **VRTX2020**.

We will make a list of our shareholders of record available electronically during the annual meeting. A shareholder wishing access to the list during the annual meeting should contact our corporate secretary in advance of the meeting.

RECORD DATE:

Only Vertex shareholders of record at the close of business on April 9, 2020 are entitled to receive notice of, and vote at, the annual meeting, and any adjournment(s) or postponement(s) thereof.

Your vote matters. Whether or not you plan to attend the annual meeting, we urge you to vote as promptly as possible by Internet, telephone or signing, dating and returning a printed proxy card. If you attend the annual meeting, you may vote your shares during the annual meeting even if you previously voted your proxy. Please vote as soon as possible to ensure that your shares will be represented and counted at the annual meeting.

April 28, 2020

By Order of the Board of Directors



Sabrina Yohai
Secretary

IMPORTANT NOTICE REGARDING INTERNET AVAILABILITY OF PROXY MATERIALS. This notice, our proxy statement and our Annual Report on Form 10-K for the year ended December 31, 2019 are first being made available to holders of record of our common stock on or about April 28, 2020. These materials are available to holders of record of our common stock at www.envisionreports.com/vrtx and to beneficial holders of our common stock at www.edocumentview.com/vrtx.

SUMMARY

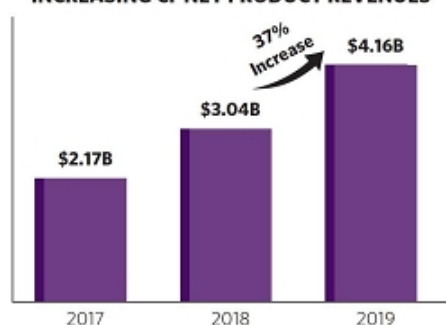
In 2019, we continued to execute on our decade-long strategy of investing in scientific innovation to create transformative medicines for people with serious diseases. In cystic fibrosis, or CF, we obtained FDA approval for and launched TRIKAFTA, our fourth medicine for CF, five months ahead of its PDUFA date. TRIKAFTA is a breakthrough medicine that we believe will allow us to treat up to 90% of patients with CF at high levels of efficacy. We also successfully negotiated reimbursement agreements for our approved CF medicines in multiple countries including England, France, Spain, Scotland, Australia, Wales and Northern Ireland, making our medicines accessible to approximately 9,000 additional patients outside of the U.S. Beyond CF, we advanced clinical programs in five serious diseases: alpha-1 antitrypsin deficiency, APOL1-mediated kidney disease, pain, sickle cell disease and beta-thalassemia. Our increased business development activities enabled us to build an industry leading platform in cell and genetic therapies including the acquisition of late-stage preclinical programs for type 1 diabetes and Duchenne muscular dystrophy. In 2019, in collaboration with CRISPR Therapeutics, we reported human clinical data in one patient with sickle cell disease and one patient with beta-thalassemia that demonstrated for the first time the curative potential of CRISPR/CAS9 mediated gene editing for a genetic disease. Our exceptional performance in 2019 resulted in 37% growth in total product revenues to \$4.16 billion, and expansion of our operating margins and operating income. As we enter 2020, we are ideally positioned to continue to create long-term value for both our patients and our shareholders with a portfolio of approved high value medicines for CF, a broad and deep pipeline beyond CF, therapeutic modalities that span small molecules to genetic and cell therapies, and a strong financial profile. Our strategy of serial innovation is playing out exactly as planned and positions us for significant growth through the new decade.

Financial Performance

Our CF medicines, TRIKAFTA, SYMDEKO/SYMKEVI, ORKAMBI and KALYDECO, are transforming the lives of eligible patients around the globe and driving our financial performance.

- Our CF net product revenues increased to \$4.16 billion in 2019, up 37% from 2018.
- Our GAAP net income was \$1.2 billion in 2019.
- Our non-GAAP net income increased to \$1.4 billion in 2019, driven by our increased net product revenues (Appendix A provides a Non-GAAP reconciliation).
- We increased income from operations by \$562 million, or 89%, in 2019 compared to 2018.
- We invested approximately \$1.6 billion in external innovation in 2019 and also increased our total cash, cash equivalents and marketable securities by approximately \$0.6 billion to approximately \$3.8 billion.
- In 2020, we expect to further increase CF product revenues by 25% or more.

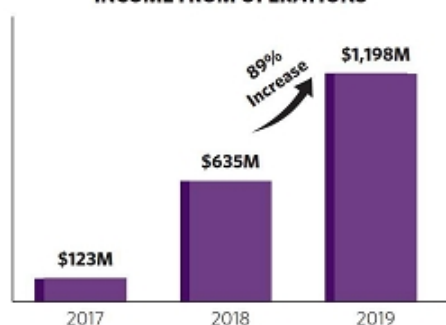
INCREASING CF NET PRODUCT REVENUES



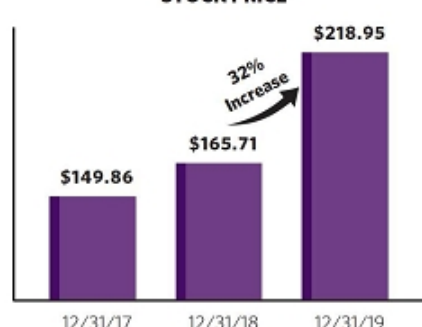
INCREASING FINANCIAL STRENGTH
(Cash, Cash Equivalents and Marketable Securities)



INCOME FROM OPERATIONS

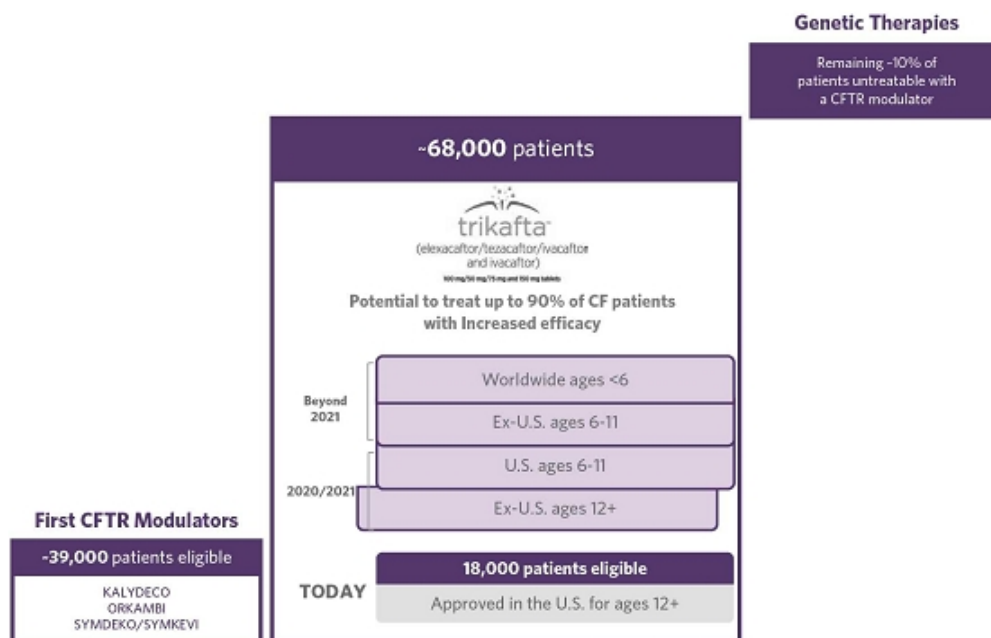


STOCK PRICE



Cystic Fibrosis

Advances in our pipeline and disciplined execution of our strategy have moved us closer to our goal of delivering highly effective treatments to all patients with CF. In January 2012, KALYDECO was first approved to treat approximately 1,000 patients with the G551D mutation in the United States. Since then, we have focused on expanding the number of patients eligible for our medicines and seeking improved treatment options for all patients. Approximately 46,000 patients are now eligible for our medicines around the world. TRIKAFTA, our triple-combination therapy, was approved in the United States in October 2019, five months ahead of its PDUFA date. In 2019, we also successfully negotiated reimbursement agreements for our approved CF medicines in multiple countries, including England, France, Australia, Spain, Scotland, Wales and Northern Ireland, which allowed us to expand access to our medicines to approximately 9,000 new patients around the world. In 2020, we are focused on obtaining approval and reimbursement for our triple-combination therapy in ex-U.S. markets and evaluating this triple-combination therapy in younger patients around the world. We are also pursuing genetic therapies for the remaining 10% of CF patients who may not be helped by our current CF medicines.



* There are a significant number of patients who are eligible for more than one of our medicines, but CF patients may only be prescribed one of our medicines at a time.

Since the beginning of 2019:

- We obtained approval in October 2019 from the FDA for TRIKAFTA for treatment of patients with CF 12 years of age and older who have at least one *F508del* mutation five months ahead of our PDUFA date - representing one of the fastest medicine approvals by the FDA.
- TRIKAFTA was developed very rapidly and approved within four years after the first synthesis of elexacaftor, which is the final component of the triple combination regimen.
- We submitted a Marketing Authorization Application to the European Medicines Agency, or EMA, which has been validated, for the triple combination of elexacaftor, tezacaftor and ivacaftor in patients 12 years of age and older.
- We are conducting a Phase 3 clinical trial evaluating elexacaftor/tezacaftor/ivacaftor and ivacaftor in children 6 to 11 years of age who have two *F508del* mutations or one *F508del* mutation and one minimal function mutation.
- We obtained a positive opinion from the EMA's Committee for Medicinal Products for Human Use for KALYDECO for infants as young as six months old.
- We obtained approval for KALYDECO in the United States and European Union for infants 6 to
- We obtained approval for SYMDEKO in the United States for children 6 to 11 years of age.
- We obtained reimbursement of ORKAMBI and/or SYMDEKO/SYMKEVI for eligible patients in several important ex-U.S. markets, including England, France, Australia and Spain.

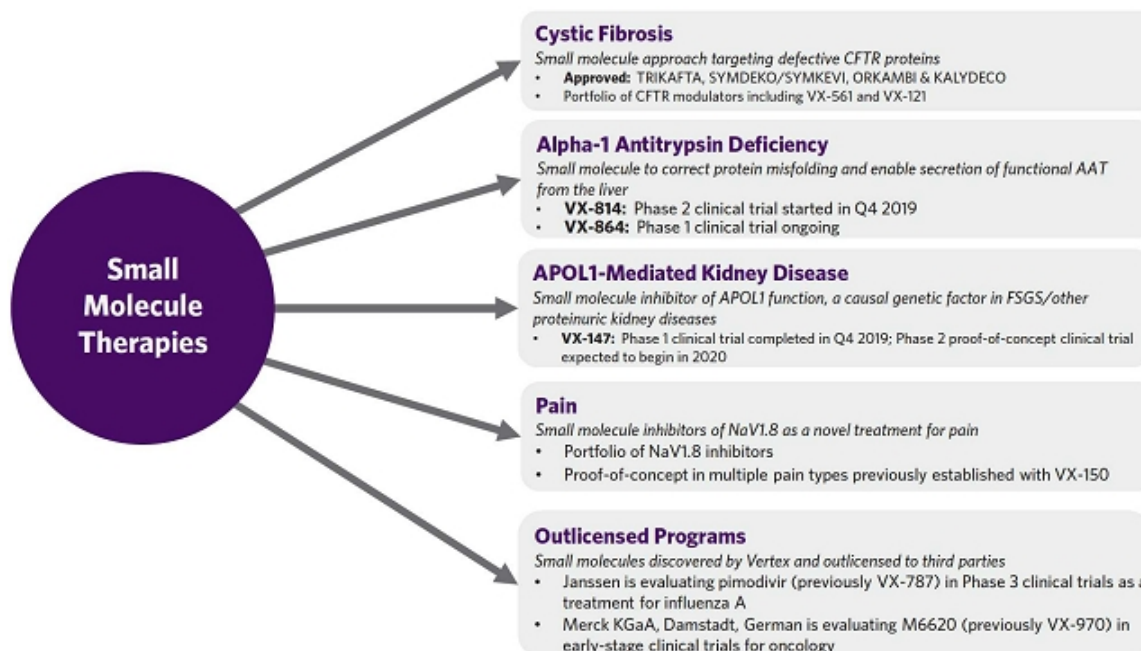
Research and Development

We invest in research and development in order to discover and develop transformative medicines for people with serious diseases. Our strategy is to combine transformative advances in the understanding of human disease with innovations in the science of therapeutics in order to identify and develop new medicines. Historically, our approach to drug discovery focused on the research and development of small molecule drugs. This approach has been validated through our success in moving novel small molecule drug candidates into clinical trials and obtaining marketing approvals for five transformative medicines in the past decade. In 2019, we had novel medicines in clinical trials in five diseases in addition to CF — AAT, APOL1 mediated focal segmental glomerulosclerosis, or FSGS, pain, sickle cell disease and beta-thalassemia. Over the last several years, we have expanded our research and development capabilities to include additional innovative therapeutic approaches with a focus on cell and genetic therapies.

Small Molecule Programs

Since the beginning of 2019, we advanced several promising small molecule programs:

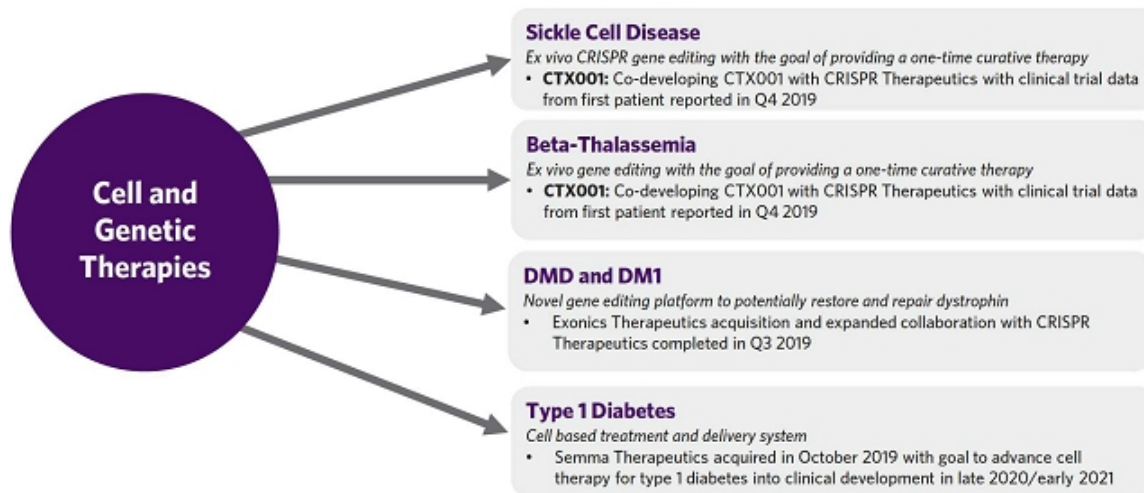
- **AAT Deficiency:** We initiated a Phase 2 proof-of-concept clinical trial for VX-814, our first investigational oral small molecule corrector for the treatment of alpha-1 antitrypsin deficiency, or AAT deficiency, in order to evaluate VX-814 in patients with AAT deficiency who have two copies of the Z mutation. A Phase 1 clinical trial of VX-864, a second investigational small molecule corrector for the treatment of AAT deficiency, is ongoing in healthy volunteers.
- **APOL1-mediated Kidney Disease:** In the fourth quarter of 2019, we completed a Phase 1 clinical trial evaluating VX-147, our first investigational oral small molecule for the treatment of FSGS, and other serious kidney diseases, in healthy volunteers. We plan to initiate a Phase 2 proof-of-concept clinical trial in 2020 to evaluate the reduction in protein levels with VX-147 in FSGS patients.
- **Pain:** We initiated clinical development of a novel Nav1.8 inhibitor for the treatment of pain in early 2020.
- **Influenza:** Our collaborator, Janssen Pharmaceuticals, Inc., is continuing to evaluate pimodivir, a compound we licensed to them in 2014, in Phase 3 clinical trials as a potential treatment for influenza A.



Cell and Genetic Therapies

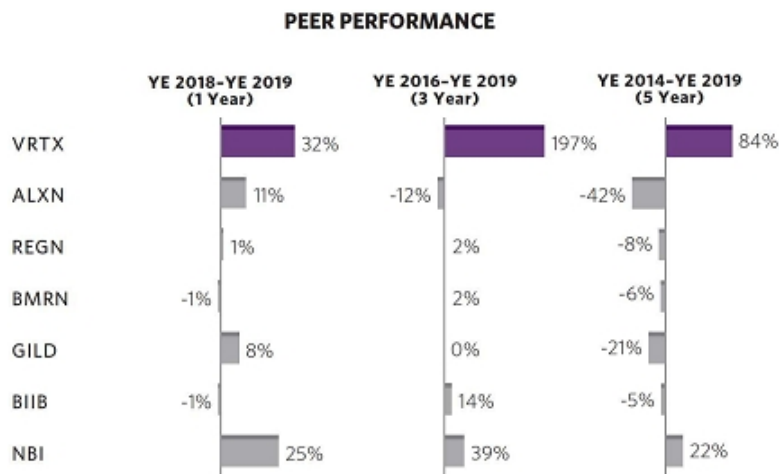
In 2019, we advanced our pipeline of potentially transformative cell and genetic therapies through the advancement of our clinical programs and the acquisition of potentially transformative preclinical programs and technology platforms.

- **Sickle Cell Disease and Beta-Thalassemia:** Enrollment is ongoing in Phase 1/2 clinical trials evaluating the investigational CRISPR/Cas9 gene-editing therapy CTX001 for the treatment of severe sickle cell disease and beta-thalassemia. Along with our collaborator, CRISPR, we announced positive, interim data from the first two patients with these hemoglobinopathies treated with CTX001, data that demonstrated for the first time the curative potential of CRISPR/Cas9 gene editing for a serious genetic disease. We expect to provide additional data for this program in 2020.
- **DMD and DM1:** We acquired Exonics Therapeutics and expanded our collaboration with CRISPR in order to support pre-clinical gene editing programs to develop treatments for Duchenne muscular dystrophy, or DMD, and myotonic dystrophy type 1, or DM1.
- **Type 1 diabetes:** We acquired Semma Therapeutics and are advancing cell-based therapy programs as potential treatments for type 1 diabetes, or T1D. We plan to advance this program into clinical development in T1D patients in late 2020 or early 2021.



Increased Shareholder Value

Driven by our exceptional performance and the accelerated success of our pipeline, our stock price increased by 32% from \$165.71 per share at the end of 2018 to \$218.95 per share at the end of 2019. Although we were pleased with our performance in 2019, biotechnology companies are best measured over the long term and in comparison to their peers, as opposed to in one-year increments and in isolation. The following chart shows our total shareholder return during the 1-year, 3-year and 5-year periods ending December 31, 2019 compared to the NBI and the following members of our peer group: Alexion, Regeneron, BioMarin, Gilead and Biogen. These peers are the companies we consider most similar to our Company based on their business models (see pages 47 and 48).



Corporate Responsibility

Vertex has grown into a leading global biotechnology company that serially innovates to bring transformative medicines to people with serious diseases around the world. As we have grown, we have maintained and expanded upon our commitment to corporate responsibility. Our progress and efforts have been recognized, with Vertex named to *Forbes* Just 100 list, *Newsweek's* America's Most Responsible Companies ranking and the Boston Business Journal's Most Charitable Companies in Massachusetts top 20 ranking.



Community

In 2019, Vertex and its employees supported more than 1,600 nonprofit organizations in 14 countries through Vertex Volunteers and the Vertex Foundation's Matching Gift Program. We created the not-for-profit Vertex Foundation as a long-term source of charitable giving and made a 10-year corporate giving commitment of \$500 million to make a difference in the lives of people living with serious diseases and in the communities in which we work and live. In 2019, the Vertex Foundation made grants in support of its focus areas: STEAM education, social innovation and healthy families.



Workplace

Our commitment to diversity and inclusion on our board and in our workforce is ingrained in our culture. Four of our ten director nominees, including our CEO, are women and four of our ten director nominees have a diverse racial or ethnic background. Women represent 53% of our global workforce and 42% of our leadership (VP and above). We have been recognized for our inclusion efforts, scoring a perfect 100 score on the Human Rights Campaign's Corporate Equality Index and fifth among 1,000 companies in Forbes 2019 Best Employers for Diversity List.







Environment

We are committed to sustainability, with strong global efforts reducing our environmental impact. Vertex reduced our global greenhouse gas emissions by 39% over the past five years. Building on these efforts, we have established a new goal to reduce by another 20% by 2023.

Director Nominees

The following table provides summary information regarding our ten director nominees. For detailed information about each nominee's background and areas of expertise, please see "Proposal No. 1: Election of Directors".

Name, Occupation or Experience	Age	Director Since	Independent	Committees			
				AC	MDCC	CGNC	S&T
Jeffrey Leiden Executive Chairman, Vertex Former CEO and President, Vertex	64	2009	No				
Reshma Kewalramani CEO and President, Vertex	47	2020	No				
Sangeeta Bhatia John J. and Dorothy Wilson Professor of Health Sciences & Technology/Electrical Engineering & Computer Science, MIT	51	2015	Yes			✓	
Lloyd Carney Former CEO, Brocade Communications	58	2019	Yes	✓			
Alan Garber Provost, Harvard University	64	2017	Yes	✓			✓
Terrence Kearney Former Chief Operating Officer, Hospira	65	2011	Yes		✓		
Yuchun Lee Executive in Residence, General Catalyst Partners Former CEO, Unica Corporation	54	2012	Yes	✓	✓		
Margaret McGlynn Former President, Vaccines and Infectious Diseases, Merck & Co. Former President, Hospital and Specialty Products, Merck & Co.	60	2011	Yes			✓	✓
Diana McKenzie Former Chief Information Officer, Workday Former Chief Information Officer, Amgen	55	Nominee	Yes				
Bruce Sachs General Partner, Charles River Ventures	60	1998	Yes				

CEO Succession

In July 2019, following two years of succession planning, we announced that the Board of Directors unanimously elected Dr. Reshma Kewalramani, the company's then-Chief Medical Officer, to succeed Dr. Jeffrey Leiden as Chief Executive Officer and President, effective April 1, 2020. In July 2019, we also announced that Dr. Leiden would become Executive Chairman, for a three-year term effective April 1, 2020. In his role as Executive Chairman, Dr. Leiden will focus on our business development organization, our cell and genetic therapy site and our government affairs activities, along with assisting on the transition and serving as the Chair of our Board. Bruce Sachs will continue in his role as Lead Independent Director. The Board believes this structure will help ensure continuity of strong and effective leadership.

The election of Dr. Kewalramani was the result of a thoughtful, multi-year succession planning process led by the independent Directors. During this time frame, the Board had the opportunity to observe and evaluate Dr. Kewalramani as a member of our executive team and to evaluate her commitment to Vertex and to our corporate strategy. The Board was impressed with Dr. Kewalramani's business performance, depth of experience, medical and scientific knowledge, and demonstrated leadership and, therefore, elected her to lead Vertex into the future. The appointment of Dr. Kewalramani as Chief Executive Officer and President combined with Dr. Leiden's appointment as Executive Chairman will provide strategic and leadership stability.

2019 Compensation Decisions and Pay-for Performance

In 2019, we received support from 96% of our shareholders on our say-on-pay proposal. We believe this support is consistent with our shareholders' understanding of our business model and the long-term value we are creating. In 2019, our board of directors and management development and compensation committee, or MDCC, reviewed our compensation programs and made the following key decisions:

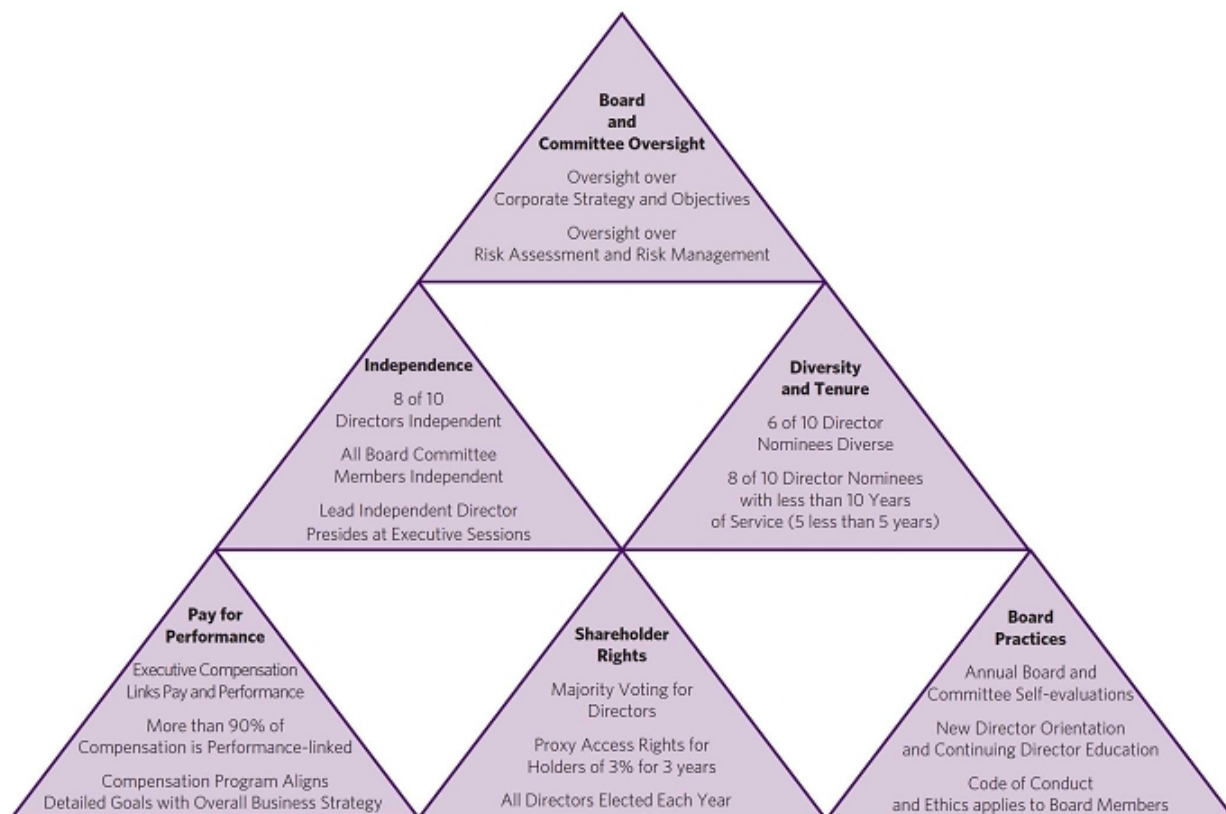
- We negotiated an employment agreement with Dr. Reshma Kewalramani, who became our CEO and President on April 1, 2020, which provides for a base salary of \$1.15 million, a target cash bonus of 120% of base salary and a target equity level of \$11 million.
- We negotiated a new employment agreement with Dr. Jeffrey Leiden designed to retain him for a three-year period as he transitions from the role of Chief Executive Officer and President to the role of Executive Chairman, with decreasing compensation over the three-year period.
- The company's exceptional performance in 2019 resulted in a leading rating (150 out of a potential 150) for 2019 and annual cash bonuses near the high end of the range for 2019, commensurate with the performance described above.
- Dr. Leiden's salary as CEO has remained unchanged at \$1.3 million since 2014, in alignment with the median CEO base salary of our peer companies. We increased the base salaries of certain of our executive vice presidents, or EVPs, based on a comparative analysis with our peer group and their contributions to the company.
- The target cash bonus of 120% for our CEO has not changed since 2012. In 2019, we increased the target cash bonus for our Executive Vice Presidents from 50% to 70% based on a comparative analysis with our peer group.
- In 2019, we maintained our CEO target equity level at \$12 million and increased EVP target equity level from \$3.5 million to \$4.0 million based on a comparative analysis with our peer group.
- We adjusted the mix of equity with 50% consisting of performance stock units that vest solely upon achievement of rigorous performance goals and 50% consisting of time-vesting restricted stock units that reward stock price appreciation but also serve as a long-term retention tool.
- We implemented changes to our broad based equity compensation program that reduced dilution from this program in 2019 with significant further reductions in dilution expected for 2020.

Shareholder Engagement

We believe that a robust shareholder outreach program is an important component of maintaining our strong corporate governance practices. We strive for a collaborative approach with investors to solicit and understand a variety of perspectives. During 2019, we solicited feedback from institutional investors representing approximately 60% of our outstanding shares. In our discussions with investors, we seek their input on a variety of corporate governance and sustainability topics and other issues that may impact our business or reputation.

Corporate Governance

We are committed to maintaining strong corporate governance practices that promote the long-term interests of our shareholders and strengthen board and management accountability.



Voting Matters

Item 1:

Election of Each of the Director Nominees for One Year Term Expiring in 2021

FOR

all Nominees

Item 2:

Ratify Selection of Independent Auditor for 2020

FOR

Item 3:

Approve, on an Advisory Basis, Our Named Executive Officer Compensation

FOR

Item 4:

Shareholder Proposal Regarding Lobbying Report

AGAINST

Table of Contents

PROPOSAL NO. 1: ELECTION OF DIRECTORS	17
Board Structure and Composition	17
Director Nominees	20
CORPORATE GOVERNANCE AND RISK MANAGEMENT	25
Independence, Chair and Lead Independent Director	25
Board Committees	25
Risk Management	25
Code of Conduct	26
Board Attendance, Committee Meetings and Committee Membership	26
Public Policy and Engagement	28
DIRECTOR COMPENSATION	29
CORPORATE RESPONSIBILITY	31
Community	31
Workplace	31
Environment	32
PROPOSAL NO. 2: RATIFICATION OF THE APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM	33
AUDIT AND FINANCE COMMITTEE REPORT	35
PROPOSAL NO. 3: ADVISORY VOTE TO APPROVE NAMED EXECUTIVE OFFICER COMPENSATION	36
PROPOSAL NO. 4: SHAREHOLDER PROPOSAL REGARDING LOBBYING	37
COMPENSATION DISCUSSION AND ANALYSIS	39
Overview	40
Detailed Discussion and Analysis	46
MANAGEMENT DEVELOPMENT AND COMPENSATION COMMITTEE REPORT	62
COMPENSATION AND EQUITY TABLES	63
Summary Compensation Table	63
Grants of Plan-Based Awards During 2019	65
Option Exercises and Stock Vested for 2019	66
Outstanding Equity Awards at Fiscal Year-End for 2019	67
SUMMARY OF TERMINATION AND CHANGE OF CONTROL BENEFITS	70
EMPLOYMENT CONTRACTS AND CHANGE OF CONTROL ARRANGEMENTS	72

PAY RATIO	75
SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT	76
EQUITY COMPENSATION PLAN INFORMATION	78
OTHER INFORMATION	79
Other Matters	79
Shareholder Proposals for the 2021 Annual Meeting and Nominations for Director	79
Shareholder Communications to the Board	79
Householding of Annual Meeting Materials	80
Solicitation	80
Forward Looking Statements	80
FREQUENTLY ASKED QUESTIONS REGARDING THE ANNUAL MEETING	81
APPENDIX A: NON-GAAP FINANCIAL MEASURES	85

PROXY STATEMENT

This proxy statement is being made available to shareholders of Vertex Pharmaceuticals Incorporated in connection with the solicitation by our board of directors of proxies to be voted at our 2020 annual meeting of shareholders and at any postponement or adjournment thereof. The annual meeting will be held on Wednesday, June 3, 2020, at 9:30 a.m., Eastern Time, as a virtual meeting conducted exclusively via live webcast at www.meetingcenter.io/207970612. See "Frequently Asked Questions Regarding the Annual Meeting - How May I Attend the Annual Meeting?" below for information regarding attending the virtual annual meeting.

Proposal No. 1 Election of Directors

Our board of directors has nominated Sangeeta Bhatia, Lloyd Carney, Alan Garber, Terrence Kearney, Reshma Kewalramani, Yuchun Lee, Jeffrey Leiden, Margaret McGlynn, Diana McKenzie and Bruce Sachs for election at our 2020 annual meeting of shareholders to hold office until our 2021 annual meeting of shareholders.

Our board of directors is our company's ultimate decision-making body, except with respect to those matters reserved to the shareholders. Our board selects our senior management team, which in turn is responsible for the day-to-day operations of our company. Our board acts as an advisor and counselor to senior management and oversees its performance.

Sangeeta Bhatia, Lloyd Carney, Alan Garber, Terrence Kearney, Reshma Kewalramani, Yuchun Lee, Jeffrey Leiden, Margaret McGlynn, and Bruce Sachs have been nominated by our board for re-election and Diana McKenzie has been nominated by our board for election at the 2020 annual meeting of shareholders for one-year terms that will expire at the 2021 annual meeting of shareholders. William Young, a current director, is not standing for re-election at our 2020 annual meeting of shareholders. Each of the nominees has agreed to be named in this proxy statement and to serve if elected. We believe that all of the nominees will be able and willing to serve if elected. However, if any nominee should become unable or unwilling to serve for any reason, proxies may be voted for another person nominated as a substitute by our board or our board may reduce the number of directors.

Board Structure and Composition

The corporate governance and nominating committee, or CGNC, of our board of directors is responsible for the composition and structure of our board, including identifying, developing and recommending qualified candidates for board membership. This committee regularly reviews director competencies, qualities, skills and experiences with the goal of ensuring that our board is comprised of directors who function collegially and effectively and who are able to apply their experience toward meaningful contributions to general corporate strategy and oversight of corporate performance, risk management, organizational development and succession planning.

Our by-laws provide that the size of our board may range between three and eleven members. We currently have ten members on our board and expect to have ten members of our board following the 2020 annual meeting of shareholders. Our CGNC may seek additional director candidates in the future who meet the criteria below in order to complement the qualifications and experience of our existing board members. Our corporate governance and nominating committee may engage a search firm to recommend candidates who satisfy the criteria.

Director Criteria, Qualifications and Experience; Diversity

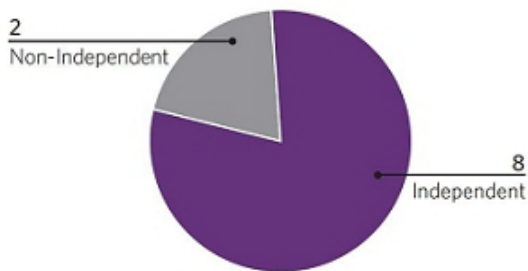
The CGNC seeks to recommend for nomination experienced directors who have substantive knowledge of our business and industry or who can bring to the board specific and valuable strategic or management capabilities acquired in other industries. The committee expects each of our directors to have proven leadership, sound judgment, the highest ethics and integrity and a commitment to the success of our company. It also seeks personal qualities that foster a respectful environment in which our directors listen to one another and hold engaged and constructive discussions. These goals for our board composition presuppose a diverse range of viewpoints, experiences and specific expertise. The corporate governance and nominating committee considers a nominee's personal characteristics and business experience relative to those of our existing board members, including the type of prior management experience, levels of expertise relevant to our business, prior board service, reputation in the business community, personal characteristics such as gender and race, and other factors that the committee believes to be important. When considering whether or not to re-nominate a director for board service, the corporate governance and nominating committee also considers whether the director has served as a member of our board for more than 20 years and whether the director is over 72 years of age. Diana McKenzie was selected and recommended as a nominee for our board of directors by the CGNC based on the criteria noted above.

Our commitment to diversity and inclusion is demonstrated by the composition of our board, which currently includes three women and four ethnically or racially diverse individuals, and by the composition of our director nominees, which include four women and four ethnically or racially diverse individuals.

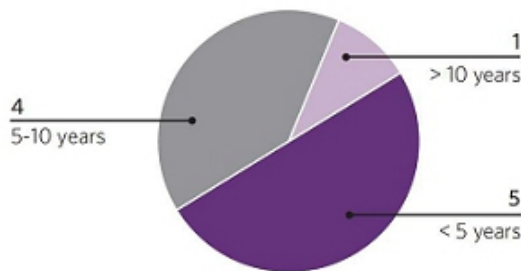
The follow table and charts provide information regarding our director nominees:

	Bhatia	Carney	Garber	Kearney	Kewalramani	Lee	Leiden	McGlynn	McKenzie	Sachs
Leadership Experience. We believe that directors who have held significant leadership positions over extended periods of time provide our company with special insights.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry Knowledge. We seek directors with substantive knowledge of the healthcare and biotechnology industries to successfully advise and oversee the strategic development and direction of our company.	✓		✓	✓	✓		✓	✓	✓	
Financial Expertise. We believe that an understanding of finance is important for members of our board, and our budgeting processes and financial and strategic transactions require our directors to be financially knowledgeable.		✓	✓	✓	✓	✓	✓	✓	✓	✓
International Perspective. We have significant operations outside the United States and value directors with experience in the operation of complex multinational organizations.		✓	✓	✓	✓	✓	✓	✓	✓	✓
Public Policy and Regulation. We operate in a highly-regulated industry and seek directors who have experience in public policy and the regulation of medicines.			✓		✓		✓	✓		
Academic Experience or Technological Background. As a biotechnology company that seeks to develop transformative medicines for patients with serious diseases, we look for directors with backgrounds in academia, science and technology and, in particular, the research and development of pharmaceutical products.	✓	✓	✓		✓	✓	✓		✓	✓
Commitment to Company Values and Goals. We seek directors who are committed to our company and its values and goals and who value the contributions that can be provided by individuals who believe in our company and its prospects for success.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Independence	Y	Y	Y	Y	N	Y	N	Y	Y	Y
Age	51	58	64	65	47	54	64	60	55	60
Tenure on Board	4	1	2	8	0	7	10	8	0	21
Gender	F	M	M	M	F	M	M	F	F	M
Ethnic or Racial Diversity	✓	✓			✓	✓				

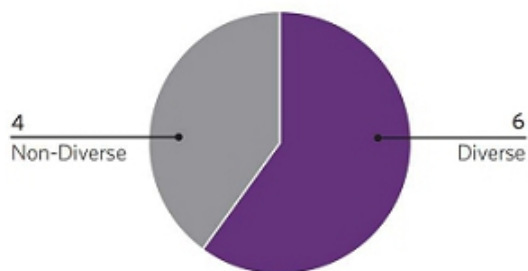
DIRECTOR INDEPENDENCE



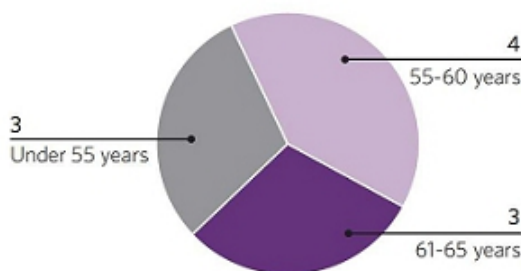
DIRECTOR TENURE



OVERALL BOARD DIVERSITY



DIRECTOR AGE



Shareholder-Recommended Director Candidates

The corporate governance and nominating committee will consider director candidates recommended by shareholders using the same criteria for director selection described above under *Director Criteria, Qualifications and Experience; Diversity*. Shareholders recommending candidates for consideration should submit any pertinent information regarding the candidate, including biographical information and a statement by the proposed candidate that he or she is willing to serve if nominated and elected, by mail to our corporate secretary at our offices at 50 Northern Avenue, Boston, Massachusetts 02210. If a shareholder wishes to nominate a candidate to be considered for election as a director at the 2021 annual meeting of shareholders using the procedures set forth in our by-laws, the shareholder must follow the procedures described in *Other Information—Shareholder Proposals for the 2021 Annual Meeting and Nominations for Director* on page 79 of this proxy statement.

Our by-laws provide for proxy access, a process that allows qualifying shareholders to nominate a director candidate for consideration at an annual meeting of shareholders and have such candidate be included in our proxy materials for the applicable shareholder meeting. The key elements of our proxy access by-law are as follows:

Provision	Requirement
Ownership Threshold and Holding Period	Available to shareholders owning 3% or more of our shares continuously for at least 3 years.
Number of Board Seats	Total number of proxy access nominees is capped at 20% of the existing board seats (or the closest whole number below 20%), with a minimum of two.
Aggregation Limits	20-shareholder limit on the number of shareholders who can aggregate their shares to satisfy the 3% ownership requirement.
Proxy Fights	Proxy access nominees will not be included in the proxy materials if we receive notice that a shareholder intends to nominate a candidate who is not to be included in our proxy materials.
Future Ineligibility	Proxy access nominees who fail to receive at least 10% of the votes cast “for” such nominee may not be re-nominated as a proxy access nominee for the next two annual meetings.

The above table is only a summary of our proxy access by-law and is qualified in its entirety by our by-laws. A shareholder who wishes to nominate a proxy access nominee to be considered for election as a director at the 2021 annual meeting of shareholders must follow the procedures set forth in our by-laws as well as those described in *Other Information—Shareholder Proposals for the 2021 Annual Meeting and Nominations for Director* on page 79 of this proxy statement.

Majority Vote Standard

Our by-laws provide for a majority vote standard for uncontested elections of our directors. Under our by-laws, director nominees in an uncontested election who receive more votes cast “for” such director nominee than “against” such director nominee are elected. Our board’s policy is that any nominee for director in an uncontested election who receives a greater number of votes “against” than votes “for” the nominee’s election shall promptly tender his or her resignation to the chair of our board following certification of the shareholder vote. Our corporate governance and nominating committee will promptly consider the tendered resignation. Based on all factors it deems in its discretion to be relevant, the committee will recommend that our board either accept or reject the resignation and may recommend that the board adopt measures designed to address any issues perceived to underlie the election results. Our board will then act on the corporate governance and nominating committee’s recommendation. We will promptly disclose our board’s decision, including, if applicable, the reasons for rejecting the tendered resignation. Any director whose resignation is being considered under this policy will not participate in the corporate governance and nominating committee or board considerations, recommendations or actions with respect to the tendered resignation.

Director Nominees

Sangeeta Bhatia

Age: 51
Director Since: 2015

Committee Assignments:

- Chair – Science and Technology Committee
- Member – Corporate Governance and Nominating Committee

Dr. Bhatia is a professor at the Massachusetts Institute of Technology, or MIT, where she currently serves as the John J. and Dorothy Wilson Professor of Health Sciences & Technology/Electrical Engineering & Computer Science. In 2018, Dr. Bhatia was on sabbatical from MIT while she served as a co-founder of Glympse Bio, a private company focused on developing in vivo sensing technology dedicated to disease monitoring. Prior to joining MIT in 2005, Dr. Bhatia was a professor of bioengineering and medicine at the University of California at San Diego from 1998 through 2005. Dr. Bhatia also is an investigator for the Howard Hughes Medical Institute, a member of the Department of Medicine at Brigham and Women's Hospital, a member of the Broad Institute and a member of the Koch Institute for Integrative Cancer Research. Dr. Bhatia holds a Sc.B. in biomedical engineering from Brown University, an S.M. and Ph.D. in Mechanical Engineering from MIT and an M.D. from Harvard Medical School.

Skills and Qualifications : Dr. Bhatia is a leading academic scientist and medical researcher. Her extensive experience in the field of biomedical engineering and in-depth understanding on the use of advanced technologies in medical research provides valuable insights to our board of directors, including with respect to our key research and development initiatives.

Lloyd Carney

Age: 58
Director Since: 2019

Committee Assignments:

- Member – Audit and Finance Committee

Mr. Carney is the Chief Executive Officer of Carney Global Ventures, LLC, an early round investor, a position he has held since March 2007. Mr. Carney was the Chief Executive Officer of ChaSerg Technology Acquisition Corp., a technology acquisition company, from September 2018 until March 2020. He was the Chief Executive Officer of Brocade Communications Systems Inc., or Brocade, a global supplier of networking hardware and software, from January 2013 until November 2017, when it was acquired by Broadcom. Prior to Brocade, Mr. Carney served as Chief Executive Officer of Xsigo Systems, a cloud-based infrastructure solutions provider, until its acquisition by Oracle in 2012. He has also served as the Chief Executive Officer and Chairman of Micromuse Inc., a software solutions provider for business and service assurance, until its acquisition by IBM. Earlier in his career he had held senior leadership roles at Juniper Networks, Inc., Nortel Networks Inc., and Bay Networks, Inc. Mr. Carney serves as a member on the Board of Directors of Visa Inc., Nuance Communications, Inc. and Grid Dynamics Holdings, Inc. He holds a Bachelor of Science degree in Electrical Engineering Technology from Wentworth Institute of Technology, a Master of Science degree in Applied Business Management from Lesley College, and an Honorary Doctorate degree in Engineering from Wentworth Institute of Technology.

Skills and Qualifications: Mr. Carney brings strong business judgment, honed through his time as a senior executive and board member of multiple global technology companies, to our board of directors. Mr. Carney has extensive corporate leadership experience, including service as the CEO of several technology companies, as well as financial expertise.

Alan Garber

Age: 64
Director Since: 2017

Committee Assignments:

- Member – Science and Technology Committee
- Member – Audit and Finance Committee

Dr. Garber is Provost of Harvard University and the Mallinckrodt Professor of Health Care Policy at Harvard Medical School, a Professor of Economics in the Faculty of Arts and Sciences, Professor of Public Policy in the Harvard Kennedy School of Government, and Professor in the Department of Health Policy and Management in the Harvard T.H. Chan School of Public Health. From 1998 until he joined Harvard in 2011, he was the Henry J. Kaiser Jr. Professor, a Professor of Medicine, and a Professor (by courtesy) of Economics, Health Research and Policy, and of Economics in the Graduate School of Business at Stanford University. Dr. Garber is a member of the National Academy of Medicine, the American Society of Clinical Investigation, the Association of American Physicians, and the American Academy for Arts and Sciences. He is a Fellow of the American Association for the Advancement of Science, the American College of Physicians, and the Royal College of Physicians. Dr. Garber is also a Research Associate with the National Bureau of Economic Research and served as founding Director of its Health Care Program for nineteen years. He also has served as a member of the National Advisory Council on Aging at the National Institutes of Health, as a member of the Board of Health Advisers of the Congressional Budget Office and as Chair of the Medicare Evidence Development and Coverage Advisory Committee at the Centers for Medicare and Medicaid Services. Dr. Garber has been a member of the Board of Directors of Exelixis, Inc., a biopharmaceutical company, since 2005. Dr. Garber holds an A.B. summa cum laude, an A.M. and a Ph.D., all in Economics, from Harvard University, and an M.D. with research honors from Stanford University.

Skills and Qualifications: Dr. Garber brings extensive leadership experience and knowledge regarding science, medicine and the healthcare industry and in particular healthcare economics to our board of directors. The insights he has developed as an expert in health care policy and as an advisor to government agencies provides our board important perspectives on the issues facing our company.

Terrence Kearney

Age: 65
Director Since: 2011

Committee Assignments:

- Chair – Audit and Finance Committee
- Member – Management Development and Compensation Committee

Mr. Kearney served as the Chief Operating Officer of Hospira, Inc., a specialty pharmaceutical and medication delivery company, from April 2006 to January 2011. From April 2004 to April 2006, he served as Hospira's Senior Vice President, Finance, and Chief Financial Officer, and he served as Acting Chief Financial Officer through August 2006. Mr. Kearney served as Vice President and Treasurer of Abbott Laboratories from 2001 to April 2004. From 1996 to 2001, Mr. Kearney was Divisional Vice President and Controller for Abbott's International Division. Mr. Kearney serves as a member of the Board of Directors at Acceleron Pharma Inc., a biopharmaceutical company, since July 2014. He served as a member of the Board of Directors of Innoviva (formerly known as Theravance, Inc.), a royalty management company, from October 2014 through April 2016, and as member of the Board of Directors of AveXis, Inc., a gene therapy company, from January 2016 until its acquisition in May 2018. Mr. Kearney has been a member of the Board of Directors of Levo Therapeutics, Inc., a biotechnology company focused on developing treatments for Prader-Willi Syndrome, since 2018. He received his B.S. in biology from the University of Illinois and his M.B.A. from the University of Denver.

Skills and Qualifications: Mr. Kearney's corporate leadership experience, industry knowledge and financial expertise make him a valuable contributor to our board of directors. He has a practical perspective on the management of global pharmaceutical operations, including commercial, manufacturing and research and development activities, and financial management strategies. He is an "audit committee financial expert" with particular experience in matters faced by the audit committee of a company with pharmaceutical product revenues and related expenses.

Reshma Kewalramani

Age: 47
Director Since: 2020

Position:

- Chief Executive Officer and President

Dr. Kewalramani is our Chief Executive Officer and President and became a member of our Board of Directors on February 13, 2020. She was our Executive Vice President and Chief Medical Officer from April 2018 through March 2020. She was our Senior Vice President, Late Development from February 2017 until April 2018. From August 2004 to January 2017, she served in roles of increasing responsibility at Amgen Inc., most recently as Vice President, Global Clinical Development, Nephrology & Metabolic Therapeutic Area and as Vice President, U.S. Medical Organization. From 2014 through 2019, Dr. Kewalramani was the industry representative to the FDA's Endocrine and Metabolic Drug Advisory Committee. She completed her internship and residency in Internal Medicine at the Massachusetts General Hospital and her fellowship in Nephrology at the Massachusetts General Hospital and Brigham and Women's Hospital combined program. Dr. Kewalramani holds a B.A. from Boston University and an M.D. from Boston University School of Medicine. Dr. Kewalramani also completed the General Management Program at Harvard Business School and is an alumnus of the school.

Skills and Qualifications: Dr. Kewalramani has extensive industry knowledge and leadership experience due to her scientific and medical expertise, as well as her role as a global senior leader across multiple disease areas and all stages of drug development. She will provide our board of directors with in-depth knowledge of our company gained during her various senior management roles within Vertex and through the day-to-day leadership of our executives.

Yuchun Lee

Age: 54
Director Since: 2012

Committee Assignments:

- Member – Audit and Finance Committee
- Member – Management Development and Compensation Committee

Mr. Lee serves as an Executive in Residence of General Catalyst Partners, a venture capital firm, positions he has held since April of 2013. Mr. Lee also serves as the Chief Executive Officer of Allego, a technology company focused on modern sales learning and readiness, and is Executive Chairman of Clarabridge, Inc. Mr. Lee was the Vice President of IBM's Enterprise Marketing Management Group from November 2010 through January 2013. Mr. Lee co-founded Unica Corporation, a provider of software and services used to automate marketing processes, in 1992, and was Unica's President and/or Chief Executive Officer from 1992 through November 2010, when Unica was acquired by IBM. From 1989 to 1992, Mr. Lee was a senior consultant at Digital Equipment Corporation, a supplier of general computing technology and consulting services. Mr. Lee holds a B.S. and an M.S. in electrical engineering and computer science from the Massachusetts Institute of Technology and an M.B.A. from Babson College.

Skills and Qualifications: Mr. Lee's expertise in marketing processes and customer engagement and business and financial experience make him a valuable contributor to our board of directors. Mr. Lee is an innovator who founded and managed the growth of a successful technology company and gained further leadership experience while serving as an executive at IBM. Mr. Lee's experiences outside of the biopharmaceutical sector provide the board with an important perspective on the issues facing the company.

Jeffrey Leiden

Age: 64
Director Since: 2009

Position:

- Executive Chairman

Dr. Leiden became our Executive Chairman in April 2020. He was our Chief Executive Officer and President from 2012 through March 2020. He has been a member of our Board of Directors since July 2009, the Chairman of our Board of Directors since May 2012, and served as our lead independent director from October 2010 through December 2011. Dr. Leiden was a Managing Director at Clarus Ventures, a life sciences venture capital firm, from 2006 through January 2012. Dr. Leiden was President and Chief Operating Officer of Abbott Laboratories, Pharmaceuticals Products Group, and a member of the Board of Directors of Abbott Laboratories from 2001 to 2006. From 1987 to 2000, Dr. Leiden held several academic appointments, including the Rawson Professor of Medicine and Pathology and Chief of Cardiology and Director of the Cardiovascular Research Institute at the University of Chicago, the Elkan R. Blout Professor of Biological Sciences at the Harvard School of Public Health, and Professor of Medicine at Harvard Medical School. He is an elected member of both the American Academy of Arts and Sciences and the Institute of Medicine of the National Academy of Sciences. Dr. Leiden serves as a director of Massachusetts Mutual Life Insurance Company, an insurance company. Dr. Leiden was a director and the non-executive Vice Chairman of the board of Shire plc, a specialty biopharmaceutical company, from 2006 to January 2012, and a director of Quest Diagnostics, a medical diagnostics company, from December 2014 to May 2019. Dr. Leiden received his M.D., Ph.D. and B.A. degrees from the University of Chicago.

Skills and Qualifications: Dr. Leiden possesses strong leadership qualities, demonstrated through his service as a senior executive in the pharmaceutical industry and as a life sciences venture capitalist, and has extensive knowledge of the science underlying drug discovery and development through his experiences as a distinguished physician, scientist and teacher. As our former CEO and as a former senior executive at Abbott Laboratories he brings a global perspective to our business and public policy issues facing our company. He also provides our board of directors with in-depth knowledge of our company and guidance with respect to our corporate strategy.

Margaret McGlynn

Age: 60
Director Since: 2011

Committee Assignments:

- Member – Corporate Governance and Nominating Committee
- Member – Science and Technology Committee

Ms. McGlynn retired from Merck & Co. in 2009, where she served as President, Vaccines and Infectious Diseases and as President, Hospital and Specialty Products. During her 26-year career at Merck, she also held various leadership roles in the U.S. and globally in marketing, sales, managed care and business development. Following her retirement, Ms. McGlynn served as the President and Chief Executive Officer of the International AIDS Vaccine Initiative, a global not-for-profit organization whose mission is to ensure the development of safe, effective and accessible HIV vaccines for use throughout the world, from 2011 until 2015. Ms. McGlynn serves as a member of the Board of Directors for Air Products and Chemicals, Inc., a company specializing in gases and chemicals for industrial uses, and Amicus Therapeutics, Inc., a biopharmaceutical company. She is also a member of the National Industrial Advisory Committee at the University at Buffalo School of Pharmacy and Pharmaceutical Sciences. Ms. McGlynn holds a B.S. in Pharmacy and an M.B.A. in Marketing and an Honorary Doctorate from the State University of New York at Buffalo.

Skills and Qualifications: Ms. McGlynn's leadership experience and industry knowledge make her a valuable contributor to our board of directors. Her service as an executive at Merck and her service on the board of Amicus Therapeutics and the board and audit committee of Air Products and Chemicals, Inc. give her a practical understanding of organizational practices valuable to a company at our stage of growth. Her experience in the development and commercialization of products across several therapeutic areas, and in her board roles and advocacy in rare diseases, provides her with a valuable understanding of the scientific, public policy, regulatory and marketplace issues we face in the drug development and commercialization process.

Diana McKenzie

Age: 55
Director Nominee

Ms. McKenzie was the Chief Information Officer of Workday, Inc., a cloud-based financial and human capital management software company, from February 2016 until April 2019. From 2004 through February 2016, she held roles of increasing responsibility at Amgen Inc., a biotechnology company, most recently serving as Senior Vice President and Chief Information Officer. Ms. McKenzie served for 17 years at Eli Lilly and Company, a pharmaceutical company, in various leadership roles, focused on drug development, reducing time to market and improving technology and security standards. She currently serves as a member on the Board of Directors of MetLife, Inc. and Change Healthcare Inc., and as a Special Advisor to Brighton Park Capital. Ms. McKenzie holds a Bachelor of Science degree in Computer Information Systems from Purdue University and completed the Information Technology Management Program at University of California, Los Angeles.

Skills and Qualifications: Ms. McKenzie has corporate leadership experience and industry knowledge that will make her a valuable contributor to our board of directors. Her service as an executive and innovator in the biotechnology and technology industries and as a member of the board of directors of public companies involved in healthcare issues provide her with multiple perspectives on our industry. Ms. McKenzie is well-positioned to provide valuable guidance and support to our management and our board of directors.

Bruce Sachs

Age: 60

Director Since: 1998

Lead Independent Director

Committee Assignments:

- Chair – Corporate Governance and Nominating Committee
- Chair – Management Development and Compensation Committee

Mr. Sachs is a General Partner at Charles River Ventures, a venture capital firm he joined in 1999. From 1998 to 1999, he served as Executive Vice President and General Manager of Ascend Communications, Inc. From 1997 until 1998, Mr. Sachs served as President and Chief Executive Officer of Stratus Computer, Inc. From 1995 to 1997, he served as Executive Vice President and General Manager of the Internet Telecom Business Group at Bay Networks, Inc. From 1993 to 1995, he served as President and Chief Executive Officer of Xylogics, Inc. Mr. Sachs holds a B.S.E.E. in electrical engineering from Bucknell University, an M.E.E. in electrical engineering from Cornell University, and an M.B.A. from Northeastern University.

Skills and Qualifications: Mr. Sachs brings strong business judgment, honed through his experience developing business strategy as a senior executive and in venture capital, to our board of directors. Mr. Sachs has a deep understanding of our business and the global business environment along with expertise in the technology that supports our infrastructure and operations. In addition, Mr. Sachs has extensive business leadership experience, including service as a CEO at a technology company, as well as financial expertise.

Board Recommendation

In each of the director nominee biographies, we highlight the specific experience, qualifications, attributes, and skills that led the board of directors to conclude that the director nominee should serve on our board at this time.

Our board of directors unanimously recommends that you vote **FOR** each of the nominees.

CORPORATE GOVERNANCE AND RISK MANAGEMENT

We are committed to good corporate governance and integrity in our business dealings. Our governance practices are documented in our Statement of Corporate Governance Principles, which addresses the role and composition of our board of directors and the functioning of the board and its committees. You can find our governance documents, including our Statement of Corporate Governance Principles, charters for each committee of the board and our Code of Conduct, on our website www.vrtx.com under “Investors—Corporate Governance—Governance Documents.”

Independence, Executive Chairman and Lead Independent Director

Our board of directors has determined that eight of our ten directors qualify as “independent” under the definition of that term adopted by The Nasdaq Stock Market LLC, or Nasdaq. Our independent directors are Dr. Bhatia, Mr. Carney, Dr. Garber, Mr. Kearney, Mr. Lee, Ms. McGlynn, Mr. Sachs and Mr. Young. Ms. McKenzie, if elected, will qualify as an independent director. Mr. Young is not seeking re-election at our 2020 annual meeting of shareholders. Our independent directors meet in executive session without management at each regularly scheduled board meeting. Each of the board committees is composed of independent directors.

Dr. Leiden, our executive chairman, was our chief executive officer and president through March 31, 2020 and is not considered an “independent” director. Dr. Kewalramani, our chief executive officer and president since April 1, 2020, is not considered an “independent” director. In his role as executive chairman, Dr. Leiden continues as an active member of our leadership team and will continue as the chairman of our board.

Our board believes that strong, independent board leadership is a critical aspect of effective corporate governance. Our corporate governance principles require that if the chair is not an independent director, then the independent directors elect one or more lead independent director(s). Since December 2011, Mr. Sachs has served as a lead independent director. We believe this structure provides our board independent leadership, while providing the benefit of having our former chief executive officer chair regular board meetings and our current chief executive officer participate in regular board meetings as a director. Combined with the lead independent director and experienced and independent committee members, our board structure provides strong independent oversight of management.

Our lead independent director’s responsibilities include:

- calling and leading regular and special meetings of the independent directors;
- serving as a liaison between our executive officers and the independent directors;
- reviewing the planned dates for regularly scheduled board meetings and the primary agenda items for each meeting; and
- reviewing with the chair of each board committee agenda items that fall within the scope of the responsibilities of that committee.

Board Committees

Our board of directors has established various committees, each of which has a written charter, to assist in discharging its duties: the audit and finance committee, or audit committee, the CGNC, the MDCC and the science and technology committee, or S&T committee. Each member of the audit committee, CGNC, MDCC and S&T committee is an independent director as that term is defined by the applicable SEC and NASDAQ rules. The primary responsibilities of each of the committees are set forth below, and the committee memberships are provided in the table appearing on page 26 of this proxy statement.

Each of the committees has the authority, as its members deem appropriate, to engage outside legal counsel or other experts or consultants in order to assist the committee in carrying out its responsibilities.

Risk Management

Our board of directors discharges its overall responsibility to oversee risk management with a focus on our most significant risks. We face considerable risk related to the commercialization of our approved products, including regulatory risk with respect to our promotional activities and competition from approved drugs and investigational drug candidates that may have product profiles superior to our approved products. We continue to invest significant resources in research programs, clinical development programs and business development activities as part of our strategy to develop transformative medicines for patients with serious diseases. With respect to each of our drug development and commercialization programs, we face considerable risk that the program will not ultimately result in a commercially successful pharmaceutical product. Our board and its committees monitor and manage the strategic, compliance and operational risks related to our medicines and our research and development programs through regular board and committee discussions that include

presentations to the board and its committees by management as well as during in-depth short- and long-term strategic reviews held at least annually.

For certain specific risk types, our board has delegated oversight responsibility to board committees as follows:

- Our audit committee oversees our policies and programs related to our financial and accounting systems, accounting policies and investment strategies, internal audit function and cybersecurity. The audit committee also is responsible for addressing risks arising from related party transactions.
- Our MDCC oversees risks associated with our compensation policies, management resources and structure, and management development and selection processes.
- Our CGNC oversees risks related to the company’s governance structure.
- Our S&T committee oversees risks related to our research and development investments.
- Our MDCC and CGNC work together to oversee succession planning, including planning related to our recent CEO transition.

Code of Conduct

We have adopted a Code of Conduct that applies to all of our directors and employees, including our chief executive officer and chief financial and accounting officers. We routinely review our Code of Conduct and make updates, as necessary. Our Code of Conduct is available on our website www.vrtx.com under “Investors—Corporate Governance—Governance Documents.” Disclosure regarding any amendments to, or waivers from, provisions of the Code of Conduct that apply to our directors or principal executive, financial or accounting officers will be posted on our website or included in a Current Report on Form 8-K within four business days following the date of the amendment or waiver.

Board Attendance, Committee Meetings and Committee Membership

During 2019, our board of directors met ten times. Each of our incumbent directors attended at least 75% of the total meetings of the board and the board committees on which he or she served that were held during the time he or she was a director in 2019. Dr. Kewalramani joined our board in February 2020.

The following table sets information regarding the current membership of our board of directors.

Director ⁽¹⁾	Independence	Board	Audit Committee	CGNC	MDCC	S&T Committee	2019 Attendance at Meetings ⁽²⁾
Sangeeta N. Bhatia	✓	●		●		●	94%
Lloyd Carney	✓	●	●				87%
Alan Garber	✓	●	●			●	89%
Terrence C. Kearney	✓	●	●		●		93%
Reshma Kewalramani		●					n/a
Yuchun Lee	✓	●	●		●		100%
Jeffrey M. Leiden		●					100%
Margaret G. McGlynn	✓	●		●		●	100%
Bruce I. Sachs	✓	★		●	●		100%
William D. Young	✓	●		●	●		96%
2019 Meetings		10	10	5	8	3	

● = Member

● = Chair

★ = Lead Independent Director

(1) All directors then in office attended our 2019 annual shareholders meeting.

(2) Includes meetings of the board of directors and meetings of each committee of the board while the director served on such committee. Mr. Carney joined our board in February 2019.

Audit and Finance Committee

The primary purposes of the audit committee are to:

- appoint, oversee and replace, if necessary, our independent registered public accounting firm;
- assist our board's oversight of our accounting and financial reporting processes and audits of our financial statements;
- review and make recommendations to our board concerning our financial structure and financing strategy;
- oversee our policies and programs and address risks related to our financial and accounting systems, accounting policies and investment strategies, internal audit function and cybersecurity;
- address risks arising from related party transactions; and
- oversee our internal audit function.

Our independent registered public accounting firm reports directly to, and is held accountable by, our audit committee in connection with the audit of our annual financial statements and related services.

Mr. Kearney, the chair of our audit committee, is our "audit committee financial expert" as that term is defined in applicable rules and regulations of the SEC and is independent according to the applicable listing standards of Nasdaq. In addition, several of the other members of the audit committee are qualified to serve as an audit committee financial expert under the SEC rules and regulations. The report of the audit committee appears on page 35 of this proxy statement.

Our audit committee reviews and, if appropriate, recommends for approval or ratification by our board, all transactions with related persons that are required to be disclosed by us pursuant to Item 404(a) of Regulation S-K promulgated by the SEC, except for transactions, if any, related to the employment of executive officers, which would be recommended for approval by the MDCC. Our policies and procedures with respect to transactions with related persons are governed by our written Related Party Transaction Policy. Pursuant to this policy, related party transactions include transactions, arrangements or relationships in which our company is a participant, the amount involved exceeds \$120,000, and one of our executive officers, directors, director nominees or 5% shareholders or their immediate family members, whom we refer to as related persons, has a direct or indirect material interest, except where disclosure of such transaction would not be required pursuant to Item 404(a) of Regulation S-K. As appropriate for the circumstances, our audit committee reviews and considers the related person's interest in the related party transaction and such other factors as it deems appropriate. In 2019, we had no transactions considered to be a related party transaction pursuant to Item 404(a) of Regulation S-K.

Corporate Governance and Nominating Committee

The primary purposes of the CGNC are to:

- assist our board of directors in developing and implementing our corporate governance principles;
- recommend the size and composition of our board and its committees;
- develop and recommend to our board an annual self-evaluation process to assess the effectiveness of our board and its committees, and oversees this process;
- oversee risks related to the company's governance structure;
- review and making recommendations with respect to our committee charters;
- identify and recommend to our board qualified individuals for board membership; and
- assist the board in external recruiting and evaluating potential candidates for the CEO position.

Management Development and Compensation Committee

The primary purposes of the MDCC are to:

- oversee and make recommendations to the board regarding compensation and development of our executives;
- recommend to the board (i) ratings for the company performance against company goals for the prior year and (ii) goals and weighting of goals for the next year;
- assist the board in evaluating potential internal candidates for the CEO position;
- oversee risks associated with our compensation policies, management resources and structure, and management development and selection processes;
- oversee and make recommendations to the board regarding the compensation of our non-employee directors; and
- review and approve our benefit and equity plans.

The MDCC has the authority to delegate any of its responsibilities to individual members to the extent deemed appropriate by the MDCC in its sole discretion, but subject always to the general oversight of the board.

See *Compensation Discussion and Analysis—Detailed Discussion* below for a discussion of the MDCC's role in overseeing executive compensation.

The report of the MDCC appears on page 62 of this proxy statement.

Science and Technology Committee

Our S&T committee discharges our board of directors' responsibilities relating to the oversight of our investment in pharmaceutical research and development. In furtherance of that oversight function, the S&T committee:

- reviews and assesses our current and planned research and development programs and technology initiatives from a scientific perspective;
- oversees risks related to our research and development investments;
- assesses the capabilities of our key scientific personnel and the depth and breadth of our scientific resources; and
- provides strategic advice to our board regarding emerging science and technology issues and trends.

Compensation Committee Interlocks and Insider Participation

Messrs. Kearney, Lee, Sachs and Young and Elaine Ullian, a former member of our board of directors, served on the MDCC during 2019. Each member of the MDCC was an independent director while serving on the MDCC. None of the members of the MDCC has been an officer or employee of the Company. None of the members of our MDCC had a relationship with the Company or any of its subsidiaries during 2019 that would be required to be disclosed pursuant to Item 404(a) of Regulation S-K. During 2019, none of our executive officers served as a member of the board of directors or compensation committee of another company that has one or more executive officers serving as a member of our board or MDCC.

Public Policy and Engagement

The biotechnology industry is a highly-regulated industry, and it is important to our business, our patients and our shareholders that we engage compliantly on public policy issues that impact our ability to serve patients and deliver on our business objectives. This includes providing advocacy for healthcare innovation and patient access to care. We engage with various policy makers to help promote an environment in which we can continue to innovate and develop transformative medicines for the benefit of patients with serious diseases.

We meet all federal, state and local laws and reporting requirements governing corporate political contributions. We file quarterly reports listing the issues for which we conduct federal lobbying activities in compliance with the Honest Leadership and Open Government Act of 2007. These reports are available to the public at the U.S. Senate Office of Public Records website and U.S. House of Representatives Office of the Clerk website.

We are a member of some industry and trade groups, including the Biotechnology Industry Association. These organizations represent the biotechnology industry and/or businesses more broadly in engaging with policy makers on issues that affect our business. Our governmental affairs executives evaluate our participation in these organizations regularly to ensure that they are broadly aligned with our business objectives, but we do not always agree with positions taken by these organizations and/or its members.

DIRECTOR COMPENSATION

Non-Employee Director Compensation Program

We have designed and implemented our compensation program for our non-employee directors to attract, motivate and retain individuals who are committed to our values and goals and who have the expertise and experience that we need to achieve those goals.

The compensation program for our non-employee directors is:

Compensation Elements

Cash

Annual Cash Retainer		\$100,000
Annual Committee Chair Retainer	Audit and Finance Committee	\$ 30,000
	Management Development and Compensation Committee	\$ 25,000
	Corporate Governance and Nominating Committee	\$ 20,000
	Science and Technology Committee	\$ 20,000
Committee Membership Retainer		
	Audit and Finance Committee	\$ 15,000
	Management Development and Compensation Committee	\$ 12,500
	Corporate Governance and Nominating Committee	\$ 10,000
	Science and Technology Committee	\$ 10,000
Annual Lead Independent Director Retainer		\$ 40,000

Equity

Initial Equity Grant	A \$400,000 value-based award in restricted stock units vesting after 12 months	
Annual Equity Retainer	On June 1 of each year, a \$400,000 value-based award, which the directors can elect to receive in the form of:	
	<ul style="list-style-type: none"> • options that are fully-vested upon grant; • restricted stock units that vests on the first anniversary of the date of grant; or • a 50/50 mix of options and restricted stock units 	

Each of our non-employee directors is eligible to defer 50% or 100% of the cash and restricted stock portion of his or her compensation set forth above and elect to receive deferred stock units that are paid out in common stock upon the earliest to occur of (i) termination of the non-employee director's service on our board of directors, (ii) a change of control and (iii) the non-employee directors disability or death.

Our non-employee directors also are reimbursed for their business-related expenses incurred in connection with attendance at board and committee meetings and related activities. Our two employee directors, Dr. Leiden and Dr. Kewalramani, do not receive separate compensation for service in such capacity.

We annually review the compensation program for our non-employee directors. In the second half of 2018, based on a market assessment of the board compensation at our peer companies, we modified the non-employee director compensation program to (i) reduce the value of the equity compensation to our directors from \$475,000 to \$400,000 and (ii) allow the directors to choose whether to receive their equity grants in the form of restricted stock units, stock options or a 50/50 mix of restricted stock units and stock options. We did not make any changes to the compensation program for our non-employee directors in 2019.

2019 Summary Compensation

Director	Fees Earned or Paid in Cash	Stock Awards ⁽¹⁾	Option Awards ⁽¹⁾	All Other Compensation ⁽³⁾	Total
Sangeeta N. Bhatia	\$130,000	\$400,103	\$ —	\$ —	\$530,103
Lloyd Carney	\$ 94,446	\$400,088	\$ —	\$ —	\$494,534
Alan Garber	\$118,613	\$200,136	\$200,033	\$ —	\$518,782
Terrence C. Kearney	\$142,500	\$400,103	\$ —	\$ —	\$542,603
Yuchun Lee	\$126,435	\$ —	\$400,006	\$ —	\$526,441
Margaret G. McGlynn	\$120,000	\$ —	\$400,006	\$ 25,000	\$545,006
Bruce I. Sachs ⁽²⁾	\$182,871	\$ —	\$400,006	\$ 25,000	\$607,877
Elaine S. Ullian	\$ 73,839	\$ —	\$400,006	\$ 25,000	\$498,845
William D. Young	\$122,500	\$400,103	\$ —	\$ —	\$522,603

- (1) The amounts set forth under the captions "Stock Awards" and "Option Awards" in the table above represent the grant-date fair value for financial statement reporting purposes of the equity awards granted during 2019. Our methodology, including underlying estimates and assumptions, for calculating these values is set forth in Note O to our consolidated financial statements included in our 2019 Annual Report on Form 10-K, filed with the SEC on February 13, 2020.
- (2) Mr. Sachs elected to defer his quarterly cash retainers, which were paid in deferred stock units, on each of the quarterly payment dates occurring on the 15th of the month following the quarter end in an amount equal to the dollar value of the cash amount that would have been paid on such date divided by the fair market value of a share of common stock on each such date. The per share fair market values of our common stock on each of those dates was \$182.28, \$176.39, \$175.50 and \$231.55.
- (3) Ms. McGlynn, Mr. Sachs and Ms. Ullian participated in the Vertex Foundation Matching Gift Program.

2019 Equity Grants

Grant	Date	Shares	Exercise Price	Grant-Date Fair Value
Annual Non-Employee Director - 100% Option Grants	June 1, 2019	6,659	\$168.04	\$400,006
Annual Non-Employee Director - 50% Option Grants	June 1, 2019	3,330	\$168.04	\$200,033
Annual Non-Employee Director - 100% Restricted Stock Unit Grants	June 1, 2019	2,381	N/A	\$400,103
Annual Non-Employee Director - 50% Restricted Stock Unit Grants	June 1, 2019	1,191	N/A	\$200,136
Initial Restricted Stock Unit Grant to Lloyd Carney	February 21, 2019	2,161	N/A	\$400,088

Outstanding Equity

As of December 31, 2019, our non-employee directors had outstanding restricted stock units, deferred stock units and stock options to purchase our common stock as follows:

Director	Outstanding Restricted Stock Units	Outstanding Deferred Stock Units	Exercisable Options	Total Outstanding Options
Sangeeta N. Bhatia	2,381	—	12,574	12,574
Lloyd Carney	2,161	—	—	—
Alan Garber	2,291	—	9,884	11,879
Terrence C. Kearney	2,381	—	28,524	28,524
Yuchun Lee	—	1,801	105,590	105,590
Margaret G. McGlynn	—	3,989	42,256	42,256
Bruce I. Sachs	—	11,899	132,256	132,256
William D. Young	2,381	—	55,597	55,597

Non-Employee Director Stock Ownership Guidelines

We have stock ownership guidelines for our non-employee directors pursuant to which our non-employee directors should, within five years of becoming subject to the guidelines, achieve ownership of shares of our common stock with a value equal to at least five times the annual cash retainer.

CORPORATE RESPONSIBILITY

Vertex has grown into a leading global biotechnology company that repeatedly innovates to bring transformative medicines to people with serious diseases around the world. As we have grown, we have maintained and expanded on our commitment to corporate responsibility. Our progress and efforts have been recognized, with Vertex named to *Forbes* Just 100 list, *Newsweek's* America's Most Responsible Companies ranking and the Boston Business Journal's Most Charitable Companies in Massachusetts top 20 ranking.



Community

At Vertex, volunteering and giving is in our DNA. In 2019, Vertex and its employees supported more than 1,600 nonprofit organizations in 14 countries through Vertex Volunteers and the Vertex Foundation Matching Gift Program.

The Vertex Foundation, a nonprofit 501(c)(3) foundation seeks to improve the lives of people with serious diseases and its communities through education, innovation and health. It is a long-term source of charitable giving. In 2019, the Vertex Foundation made \$7.3 million in grants to nonprofit organizations globally in support of its core focus areas.

Throughout the year, we encourage our employees to participate in community service activities through Vertex Volunteers program, including activities such as pro bono service conducted by members of our legal and compliance group and our annual global Day of Service. Last year, 50% of Vertex employees in 14 countries collectively volunteered more than 6,600 hours in their local communities.

We have established a 10-year corporate giving commitment of \$500 million. Our corporate giving extends and expands our long-term commitment to patients with serious diseases and our communities, including a focus on science, technology, engineering, arts and math (STEAM) education. For example, Vertex Learning Labs in Boston and San Diego provide hands-on learning to thousands of students annually and help reinforce concepts taught in classrooms with resources that the schools may not have. We also annually provide 87 scholarships to people with cystic fibrosis and their family members who are pursuing two-year, four-year or graduate degrees. Vertex is also committed to supporting programs and initiatives in the countries in which we operate to educate healthcare professionals, strengthen cystic fibrosis research and development, raise disease awareness and provide support to nonprofit organizations.



Workplace

We are committed to building an outstanding, committed and passionate team at Vertex. We believe that we can do our best work for patients when we foster a culture and environment where all points of view are respected and heard. At Vertex, we view diversity as a catalyst for innovation, and as a key driver in making better decisions and achieving the best outcomes.

We are pleased to have been awarded:

- a perfect score of 100 on the Human Rights Campaign's Corporate Equality Index (CEI);
- recognition in the list of Best Places to Work for LGBTQ Equality; and
- #5 among 1,000 companies in Forbes 2019 Best Employers for Diversity List.

We were also recognized by the Boston Women's Workforce Council in 2019 with an Innovative Initiative Award for the work we have done to increase the ratio of women on our board and in our executive suite through hiring and promotion.

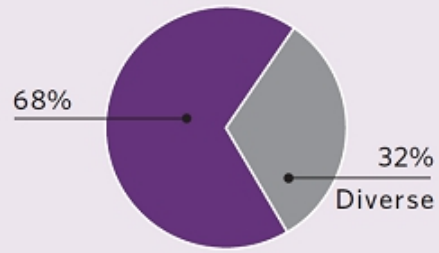
Six of our ten board nominees are diverse based on gender and/or ethnicity. This includes four female board nominees. We are pleased to have been recognized by 2020 Women on Boards, a non-profit organization that is focused on educating corporate stakeholders on the importance of board diversity.

On a global basis, our employee population is 53% women and 47% men. In the United States, approximately 32% of our workforce and 36% of new hires are racially/ethnically diverse. As of the end of 2019, 42% of our global leadership (VP and above) were women and 13% of U.S. leadership were racially/ethnically diverse.

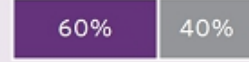
**VERTEX GLOBAL
GENDER DIVERSITY**



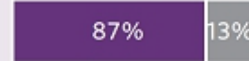
**VERTEX US RACIAL/
ETHNIC DIVERSITY**



Board
Nominees



VP+





Environment

We are committed to limiting our environmental impacts and to operating our business in a sustainable manner.

Strong local efforts are reducing our environmental impacts. Since 2015, Vertex has reduced its global greenhouse gas emissions by 39%. Vertex's research facility in Oxford, UK uses 100% renewable energy sources for its electricity and gas. At our research site in San Diego, we divert 15,000 pounds of cardboard and glass annually through a unique solvent distribution system. In addition, our facilities in Boston and in San Diego are LEED Gold certified and our office in London achieved a BREEAM rating of excellent.

We promote energy efficiency outside of our buildings, too. Employees are encouraged to use public transportation to commute to work and we offer a subsidy for them to do so. Approximately 50% of employees in Boston and more than 80% of employees in London commute using public transportation. In San Diego, our efforts to encourage more sustainable commuting methods achieved the highest recognition from the San Diego Association of Government's iCommute program.

Building on these sustainability efforts, we have established a new global goal to reduce our absolute greenhouse gas emissions 20% by 2023. In addition, in 2019 we reported to the CDP Climate Change survey to share our progress and commitment to sustainability.

Proposal No. 2: Ratification of the Appointment of Independent Registered Public Accounting Firm

Engagement of Ernst & Young LLP

Our audit and finance committee is responsible for the appointment, compensation and oversight of our independent registered public accounting firm. Ernst & Young LLP has been our independent registered public accounting firm since 2005, and we believe that the selection of Ernst & Young LLP as our independent registered accounting firm for the year ending December 31, 2020 is in the best interest of our company and our shareholders.

In determining whether to reappoint our independent registered public accounting firm, our audit and finance committee undertakes an annual formal evaluation of the independent registered public accounting firm, during which it considers the quality of its discussions with and the performance of the lead audit partner, the audit team assigned to our account, the potential impact of changing our independent registered public accounting firm, the overall strength and reputation of the firm and issues pertaining to auditor independence, including fees that our independent registered public accounting firm receives for non-audit services.

Each year, our audit and finance committee, together with management, review the selection of our lead audit partner from Ernst & Young LLP. The review considers several factors, including sound judgment, industry knowledge and experience managing audits of complex companies with substantial international operations. Applicable laws and regulations require that we change our lead audit partner every five years. Our lead audit partner completed her fifth year during the 2019 audit cycle. After undertaking its review, our audit and finance committee decided to retain Ernst & Young LLP as our independent registered public accounting firm for the 2020 audit and, together with management, identified the new lead audit partner for the 2020 audit.

Representatives of Ernst & Young LLP are expected to attend the annual meeting, will have the opportunity to make a statement if they desire to do so and will be available to respond to appropriate questions from shareholders.

Effect of Vote

Although we are not required to have shareholders ratify the selection of Ernst & Young LLP, our board is submitting this proposal to our shareholders for ratification as a matter of good corporate practice. If our shareholders do not ratify the selection, our audit and finance committee will reconsider the selection of Ernst & Young LLP for the ensuing year, but may determine that continued retention of Ernst & Young LLP is in our company's and our shareholders' best interests. Even if the appointment is ratified, the audit and finance committee, in its discretion, may direct the appointment of a different independent registered public accounting firm at any time during the year if it determines that such a change would be in our company's and our shareholders' best interests.

Independent Registered Public Accounting Firm Fees

The audit and finance committee works with our management in order to negotiate appropriate fees with Ernst & Young LLP and is ultimately responsible for approving those fees. The following is a summary and description of fees for services provided by Ernst & Young LLP in 2019 and 2018.

Service	2019	2018
Audit fees	\$3,891,000	\$3,433,000
Audit-related fees	0	0
Tax fees	3,194,000	2,790,000
All other fees	10,000	3,000
TOTAL	\$7,095,000	\$6,226,000

“**Audit fees**” represented the aggregate fees for professional services rendered for the audit of our annual consolidated financial statements, and our internal controls over financial reporting, for the reviews of the consolidated financial statements included in our Form 10-Q filings for statutory audits of our international operations and providing consents with respect to registration statements.

“**Audit-related fees**” refer to fees for accounting consultations.

“**Tax fees**” consisted of fees related to tax compliance, worldwide tax planning and tax advice. The tax fees for 2019 and 2018 consisted of:

- tax compliance and preparation fees, including the preparation of original and amended tax returns and refund claims, and tax payment planning of \$1,720,000 and \$1,785,000, respectively; and
- tax advice and planning fees of \$1,474,000 and \$1,005,000, respectively.

“All other fees” consisted of licensing fees paid to Ernst & Young LLP for access to its proprietary accounting research database.

Audit and Finance Committee Pre-Approval Policies and Procedures

Our audit and finance committee has established a policy to pre-approve all audit and permissible non-audit services provided by our independent registered public accounting firm. Prior to the engagement of the firm for each year’s audit, management submits to our audit and finance committee for approval a description of services expected to be rendered during that year for each of the following four categories of services and a budget for those services in the aggregate.

- **Audit fees** include fees for audit work performed in the preparation of financial statements, as well as work that generally only our independent registered public accounting firm can reasonably be expected to provide, including comfort letters, statutory audits, consents and attestation services.
- **Audit-related fees** relate to services for assurance and related services that traditionally are performed by the independent registered public accounting firm, including due diligence related to mergers and acquisitions, employee benefit plan audits, special procedures required to meet certain regulatory requirements and consultation regarding financial accounting and/or reporting standards.
- **Tax fees** include fees for all services performed by the independent registered public accounting firm’s tax personnel except those services specifically related to the audit of our financial statements, and include fees in the areas of tax compliance, tax planning and tax advice.
- **All other fees** are those associated with services not captured in the three preceding categories.

Prior to the engagement of our independent registered public accounting firm, our audit and finance committee pre-approves these services by category of service. The fees are budgeted and our audit and finance committee requires the independent registered public accounting firm and management to report actual fees versus the budget periodically throughout the year by category of service. During the year, circumstances may arise when it may become necessary to engage the independent registered public accounting firm for additional services not contemplated in the original pre-approval. In those instances, our audit and finance committee requires that we obtain its specific pre-approval for these services.

The audit and finance committee may delegate pre-approval authority to one or more of its members. The member to whom such authority is delegated must report any pre-approval decisions to our audit and finance committee at its next scheduled meeting.

All of the services set forth above in the categories “audit-related fees,” “tax fees” and “all other fees” were pre-approved and none were approved by our audit and finance committee pursuant to Rule 2-01(c)(7)(i)(C) of Regulation S-X, which relates to the approval of a *de minimis* amount of non-audit services after the fact but before completion of the audit.

The affirmative vote of a majority of the shares represented and entitled to vote on this matter is required for the approval of this proposal.

Our board of directors unanimously recommends that you vote **FOR** ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm for the year ending December 31, 2020.

AUDIT AND FINANCE COMMITTEE REPORT

The Audit and Finance Committee of the Board of Directors (the “Audit Committee”) oversees the Company’s accounting, auditing and financial reporting process, financial risk assessment and management process and for monitoring compliance with certain regulatory and compliance matters, on behalf of the Board of Directors. Management of the Company is responsible for preparing the financial statements, for establishing and maintaining adequate internal financial and disclosure controls, and for the public reporting process. Ernst & Young LLP (“Ernst & Young”), the Company’s independent registered public accounting firm, is responsible for expressing an opinion on the conformity of the Company’s audited financial statements with generally accepted accounting principles and on the Company’s internal control over financial reporting.

The Audit Committee reviewed and discussed the Company’s audited financial statements for the year ended December 31, 2019 with Ernst & Young and the Company’s management and Ernst & Young’s audit of the Company’s internal control over financial reporting. In addition, the Audit Committee has discussed with Ernst & Young the matters that are required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board (the “PCAOB”) and the SEC. These communications and discussions are intended to assist the Audit Committee in overseeing the financial reporting and disclosure process.

The Audit Committee also has received from Ernst & Young the written disclosures and the letter concerning independence as required by the applicable requirements of the PCAOB regarding Ernst & Young’s communications with the Audit Committee regarding independence, and has discussed with Ernst & Young the firm’s independence. The Audit Committee has also concluded that Ernst & Young’s provision of audit and non-audit services to the Company is compatible with Ernst & Young’s independence from the Audit Committee and the Company’s management.

Based on the review and discussions noted above, the Audit Committee recommended to the Company’s Board of Directors that the audited financial statements for the year ended December 31, 2019 be included in the Company’s Annual Report on Form 10-K for filing with the SEC. This report is provided by the following independent directors, who comprise the Audit Committee:

Terrence C. Kearney (*Chair*)
Lloyd Carney
Alan Garber
Yuchun Lee

Proposal No. 3: Advisory Vote to Approve Named Executive Officer Compensation

Our compensation program is designed to attract, retain and motivate talented and experienced individuals across all areas of our business and to align the interests of our executive officers with the interests of our shareholders as we seek to create value through the discovery, development and commercialization of transformative medicines.

In 2019, our annual advisory vote on executive compensation received support from approximately 96% of the shares represented and entitled to vote at the 2019 annual meeting. We believe this support is consistent with our shareholders' understanding of our business model and the long-term value we are creating. We plan to continue a high level of shareholder engagement regarding executive compensation.

Our focus is and continues to be maintaining the strong link between our compensation programs and our ability to continue to develop transformative medicines while delivering sustained company performance, with approximately 90% of our named executive officer compensation linked to performance. Our board and MDCC routinely review our compensation programs and made the following key decisions with respect to 2019 compensation:

- We negotiated an employment agreement with Dr. Reshma Kewalramani, who became our CEO and President on April 1, 2020, which provides for a base salary of \$1.15 million, a target cash bonus of 120% of base salary and a target equity level of \$11 million.
- We negotiated a new employment agreement with Dr. Jeffrey Leiden designed to retain him for a three year period as he transitions from the role of Chief Executive Officer and President to the role of Executive Chairman with decreasing compensation over the three-year period.
- The company's exceptional performance in 2019 resulted in a leading rating (150 out of a potential 150) for 2019 and annual cash bonuses near the high end of the range for 2019, commensurate with the performance described above.
- During Dr. Leiden's tenure as CEO, his salary had remained unchanged at \$1.3 million since 2014, in alignment with the median CEO base salary of our peer companies. We increased the base salaries of certain of our executive vice presidents based on a comparative analysis with our peer group and their contributions to the company.
- The target cash bonus of 120% for our CEO has not changed since 2012. In 2019, we increased the target cash bonus for our executive vice presidents from 50% to 70% based on a comparative analysis with our peer group.
- In 2019, we maintained the CEO's target equity level at \$12 million and increased our executive vice president target equity level from \$3.5 million to \$4.0 million based on a comparative analysis with our peer group.
- We adjusted the mix of equity with 50% consisting of performance stock units that vest solely upon achievement of rigorous performance goals and 50% consisting of time-vesting restricted stock units that reward stock price appreciation but also serve as a long-term retention tool.

Our executive compensation program, including our performance and the compensation of our named executive officers, is discussed in greater detail in the Compensation Discussion and Analysis section beginning on page 39 of this proxy statement.

As required by Section 14A of the Exchange Act, our board of directors is asking that shareholders cast a non-binding, advisory vote FOR the following resolution:

RESOLVED, that the compensation of our named executive officers, as disclosed pursuant to the rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, the Compensation and Equity Tables and the related narrative executive compensation disclosures contained in this proxy statement, is hereby APPROVED.

The vote on this resolution is advisory and not binding on the board. However, our MDCC and board intend to consider carefully the outcome of the shareholder vote when considering future executive compensation program matters. We will hold an annual advisory, non-binding vote of our shareholders on the compensation of our named executive officers. The next shareholder vote on the frequency of such advisory vote is expected to be held at the 2023 annual meeting of shareholders.

Our board of directors unanimously recommends that you vote **FOR** the approval of the resolution set forth above.

Proposal No. 4: Shareholder Proposal Regarding Lobbying

We expect the following shareholder proposal will be presented for consideration at the 2020 annual meeting of shareholders. Our board of directors unanimously recommends a vote AGAINST this shareholder proposal for the reasons set forth following the proposal.

THE SHAREHOLDER PROPOSAL

Friends Fiduciary Corporation, 1700 Market Street, Suite 1535, Philadelphia, Pennsylvania 19103, an owner of at least \$2,000 worth of shares of our common stock as of December 20, 2019 has given notice that it intends to present for action at our 2020 annual meeting of shareholders the following resolution:

WHEREAS, we believe in full disclosure of our company's direct and indirect lobbying activities and expenditures to assess whether Vertex's lobbying is consistent with its expressed goals and in the best interests of shareholders.

RESOLVED, the shareholders of Vertex Pharmaceuticals Incorporated ("Vertex") request the preparation of a report, updated annually, disclosing:

1. Company policy and procedures governing lobbying, both direct and indirect, and grassroots lobbying communications.
2. Payments by Vertex used for (a) direct or indirect lobbying or (b) grassroots lobbying communications, in each case including the amount of the payment and the recipient.
3. Vertex's membership in and payments to any tax-exempt organization that writes and endorses model legislation.
4. Description of the decision making process and oversight by management and the Board for making payments described in section 2 and 3 above.

For purposes of this proposal, a "grassroots lobbying communication" is a communication directed to the general public that (a) refers to specific legislation or regulation, (b) reflects a view on the legislation or regulation and (c) encourages the recipient of the communication to take action with respect to the legislation or regulation. "Indirect lobbying" is lobbying engaged in by a trade association or other organization of which Vertex is a member.

Both "direct and indirect lobbying" and "grassroots lobbying communications" include efforts at the local, state and federal levels.

The report shall be presented to the Audit Committee or other relevant oversight committees and posted on Vertex's website.

SUPPORTING STATEMENT

We encourage transparency in the use of corporate funds to influence legislation and regulation, both directly and indirectly. Vertex spent over \$3 million in 2017 and 2018 on federal lobbying (opensecrets.org). This figure does not include lobbying expenditures to influence legislation in states, where Vertex also lobbies but disclosure is uneven or absent. For example, Vertex had 133 lobbyists in 33 states in 2018 (followthemoney.org), and has spent over \$290,000 on lobbying in California in 2017-2018. Vertex's lobbying has drawn media attention ("Is Big Pharma Getting 'Patient Advocates' to Do Its Lobbying Work?" *The Daily Beast*, April 6, 2018), ("Drugmakers Dramatically Boosted Lobbying Spending in Trump's First Quarter," *Salon*, April 22, 2017).

Vertex is listed as a member of the Biotechnology Innovation Organization, which spent \$19.26 million on lobbying in 2017 and 2018. Vertex does not disclose its trade association memberships, nor payments and the portions used for lobbying.

Transparent reporting would reveal whether company assets are being used for objectives contrary to Vertex's long-term interests. We are concerned that Vertex's lack of lobbying disclosures, including lobbying done indirectly by trade associations and other organizations, and any potential negative publicity for opposing drug price initiatives, may present reputational risks for Vertex.

YOUR COMPANY'S RESPONSE

Our board of directors recommends a vote AGAINST this shareholder proposal.

We engage with public policymakers, where legal and appropriate, when we believe it will serve the best interests of our company, our shareholders, employees, patients and other stakeholders. Vertex recognizes the importance of sound public policy in supporting our mission to create transformative medicines for people with serious diseases.

Our board acknowledges the interests of shareholders in information about our participation in the political process. Our board is informed on Vertex's public policy activities, including political spending and lobbying, through periodic reports on our public policy and lobbying activities from management. Our Executive Vice President and Chief Patient Officer and Vice President of Government Affairs and Public Policy additionally are responsible for all corporate political contributions and review each one to ensure alignment with our mission and business priorities.

In addition, we already provide comprehensive information regarding our lobbying activities in accordance with applicable federal and state disclosure regulations, including filing quarterly reports on our federal lobbying activity in compliance with the Honest Leadership and Open Government Act of 2007. These reports are available to the public at the U.S. Senate Office of Public Records website and U.S. House of Representatives Office of the Clerk website. Lobbying disclosure rules often apply at the state and local levels. The states where we file lobbying reports may make those reports available on searchable websites.

Vertex is a member of a small number of industry and trade groups that are aligned with our business objectives, including: Biotechnology Innovation Organization, California Life Sciences Association, Texas Healthcare and Bioscience Institute, and Massachusetts Biotechnology Council. Our governmental affairs executives evaluate our participation in these organizations regularly to ensure alignment with our business priorities. While we may not always agree with the positions taken by these organizations and/or its members, we are committed to participating in the discussions.

The associations and coalitions to which we belong perform many valuable functions beyond lobbying; indeed, only a small portion of the dues that are paid to such organizations are used to engage in certain lobbying activities. We do not direct, nor have discretion over, how these funds are used. Accordingly, our board believes that additional disclosures regarding payments to these trade associations would neither convey any additional, valuable information, nor present an accurate reflection of our positions on certain public policy issues.

In light of the above, our board believes that the proposal's additional detailed reporting obligation would be duplicative of existing disclosures and that it would impose an unnecessary administrative burden and expense on the company when sufficient disclosure already exists. The affirmative vote of a majority of the shares represented and entitled to vote on this matter is required for the approval of this proposal.

For all of the above reasons our board of directors unanimously recommends that you vote **AGAINST** this shareholder proposal.

COMPENSATION DISCUSSION AND ANALYSIS

Letter from Management Development and Compensation Committee to Our Shareholders

Dear Fellow Shareholders,

The Management Development and Compensation Committee's stewardship of Vertex's compensation programs is guided by Vertex's mission of developing transformative medicines for people with serious diseases and by so doing, creating value for our shareholders. Toward that end, we have designed the company's compensation programs to closely align management's incentives with Vertex's strategic long- and short-term goals and with the interests of Vertex's shareholders. We believe that this alignment has contributed to Vertex's remarkable accomplishments over the last several years as it has significantly increased the number of patients benefiting from its medicines each year, established a strong financial position with significant increases in revenues, operating margins and cash flows, accelerated the advancement of its pipeline of small molecule drug candidates and added a new set of cutting edge cell and genetic therapies all in accordance with its core strategy of investing in scientific innovation to create transformative medicines for people with serious diseases. These accomplishments have been recognized by the company's shareholders and have been reflected in the increasing value that the company's shareholders have attributed to the company. Vertex's market capitalization has increased from approximately \$7 billion in early 2012 to over \$56 billion at the end of 2019.

We take seriously our role in the governance of compensation programs and the importance of attracting and retaining critical executive talent. The success of the company and the execution of Vertex's business strategy over the last several years has depended upon the stability and operational excellence of our senior executive team. In 2018 and 2019, our committee, together with the other members of the Board of Directors, focused on a deliberate and comprehensive succession planning resulting in the appointment of Dr. Reshma Kewalramani as Vertex's CEO and President and the appointment of Dr. Jeffrey Leiden in the new role of Executive Chairman in April 2020.

2019 was a remarkable and seminal year in the execution of the Vertex business strategy. Vertex obtained early approval for TRIKAFTA (5 months ahead of its PDUFA date) a breakthrough medicine that Vertex believes will allow it to treat up to 90% of patients with CF globally at high levels of efficacy. Vertex also significantly expanded access to its approved medicines by obtaining new reimbursement agreements in multiple countries, including England, Wales, Scotland, Northern Ireland, France, Spain and Australia. The research and development team significantly expanded the Vertex pipeline through both internal research and strategic investment in external innovation. Finally, the company delivered particularly strong financial results, exceeding revenue targets by more than \$500 million. This success in 2019 reflects both the company's exceptional execution in 2019 and the overall corporate strategy that the company's core management team has championed since 2012.

Consistent with these outstanding results, for 2019 our executives received above-target cash bonuses and payouts on performance stock unit awards based both on one-year business and financial goals and three-year research and development goals. We believe these outcomes are aligned with our commitment to linking pay to performance. Looking ahead, we will continue to focus on maintaining the strong link between Vertex's compensation programs and execution of its corporate strategy. Central to executing our corporate strategy is our ability to attract and retain a highly-functioning executive team.

Sincerely,

Bruce I. Sachs (Chair)
Terrence C. Kearney
Yuchun Lee
William D. Young

Overview

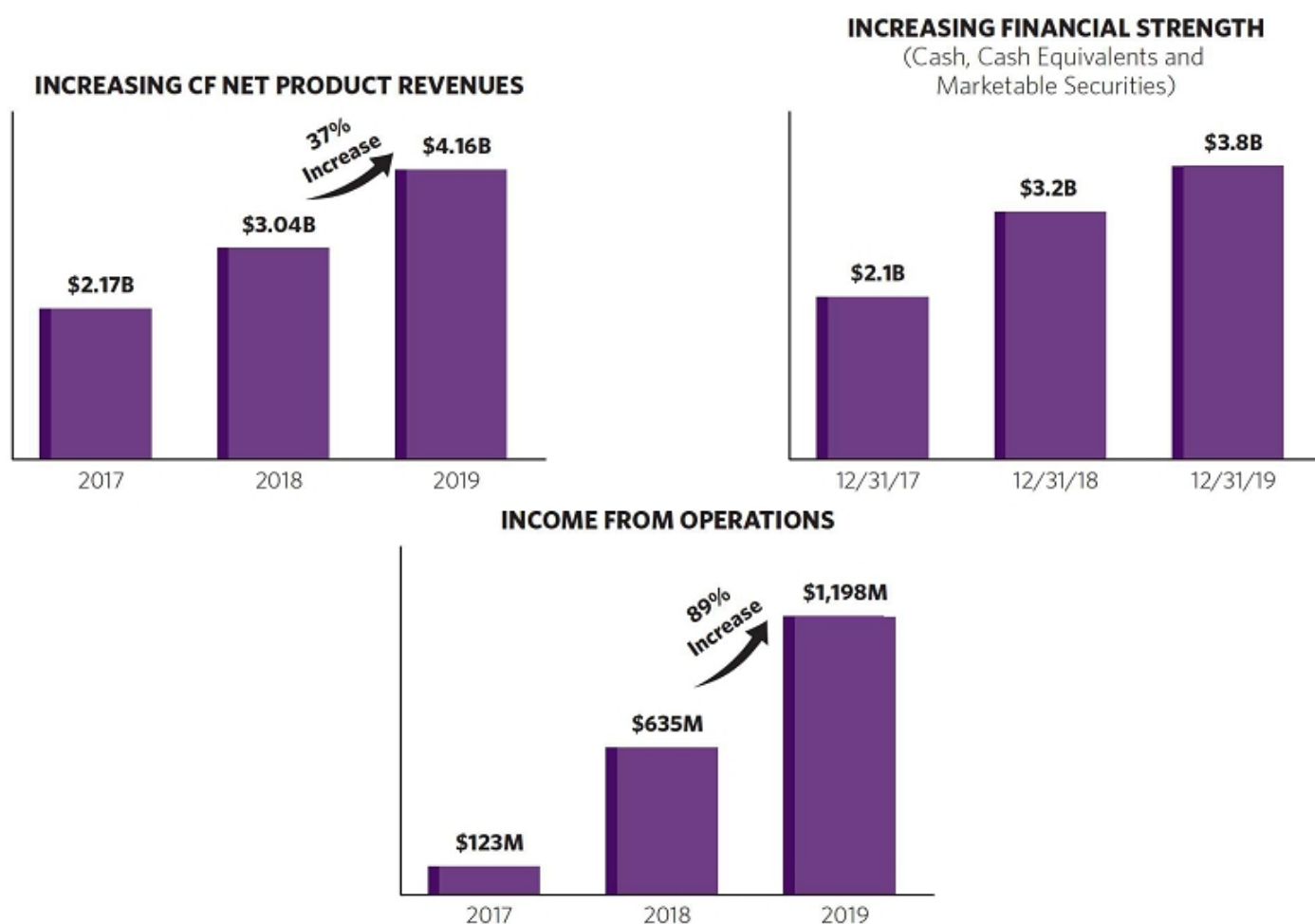
This section discusses the principles underlying our policies and decisions with respect to the compensation of our “named executive officers” and all material factors we believe are relevant to an analysis of these policies and decisions. Our named executive officers (or “NEOs”) for 2019 are listed below. Our NEOs for 2019 include a former executive officer. However, general references below to “our NEOs” relate solely to our continuing NEOs and should be interpreted accordingly.

Name	Position
Jeffrey M. Leiden	Executive Chairman (Chief Executive Officer and President until March 31, 2020)
Reshma Kewalramani	Chief Executive Officer and President (Executive Vice President, Chief Medical Officer until March 31, 2020)
Charles F. Wagner, Jr.	Executive Vice President, Chief Financial Officer
Stuart A. Arbuckle	Executive Vice President, Chief Commercial Officer
Amit Sachdev	Executive Vice President and Chief Patient Officer
Paul M. Silva	Senior Vice President and Corporate Controller (Interim CFO for a portion of 2019)
Ian F. Smith	Former Executive Vice President and Chief Operating Officer (Interim CFO for a portion of 2019)

Financial Performance

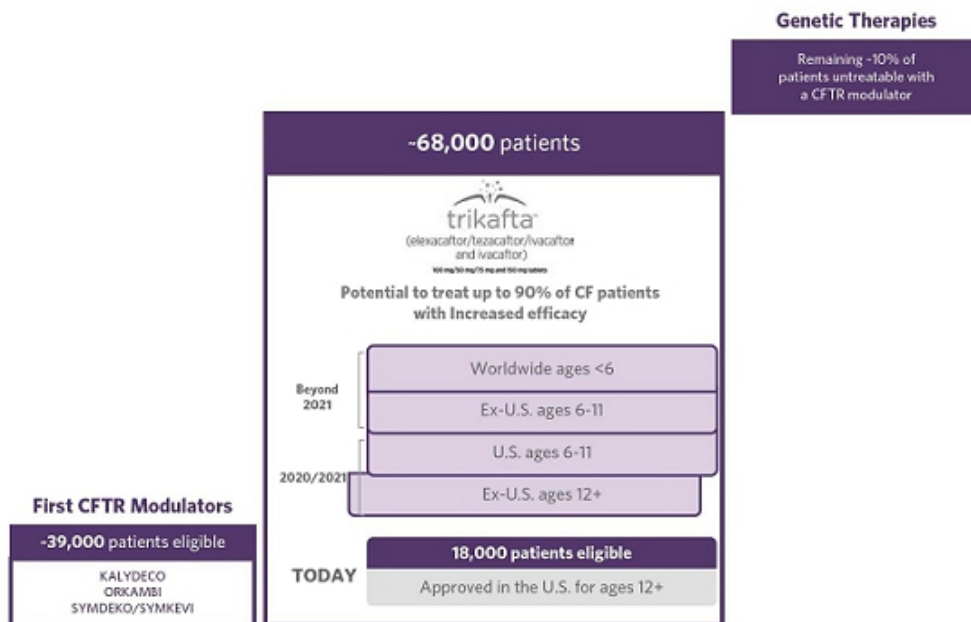
Our CF medicines, TRIKAFTA, SYMDEKO/SYMKEVI, ORKAMBI and KALYDECO, are transforming the lives of eligible patients around the globe and driving our financial performance.

- Our CF net product revenues increased to \$4.16 billion in 2019, up 37% from 2018.
- Our GAAP net income was \$1.2 billion in 2019.
- Our non-GAAP net income increased to \$1.4 billion in 2019, driven by our increased net product revenues (Appendix A provides a Non-GAAP reconciliation).
- We increased income from operations by \$562 million, or 89%, in 2019 compared to 2018.
- We invested approximately \$1.6 billion in external innovation in 2019 and also increased our total cash, cash equivalents and marketable securities by approximately \$0.6 billion to approximately \$3.8 billion.
- In 2020, we expect to further increase CF product revenues by 25% or more.



Cystic Fibrosis

Advances in our pipeline and disciplined execution of our strategy have moved us closer to our goal of delivering highly effective treatments to all patients with CF. In January 2012, KALYDECO was first approved to treat approximately 1,000 patients with the G551D mutation in the United States. Since then, we have focused on expanding the number of patients eligible for our medicines and seeking improved treatment options for all patients. Approximately 46,000 patients are now eligible for our medicines around the world. TRIKAFTA, our triple-combination therapy, was approved and launched in the United States in October 2019 five months ahead of its PDUFA date. In 2019, we also successfully negotiated reimbursement agreements for our approved CF medicines in multiple countries, including England, France, Australia, Spain, Scotland, Wales and Northern Ireland, which allowed us to expand access to our medicines to approximately 9,000 new patients around the world. In 2020, we are focused on obtaining approval and reimbursement for our triple-combination therapy in ex-U.S. markets and evaluating this triple-combination therapy in younger patients around the world. We are also pursuing genetic therapies for the remaining 10% of CF patients who may not be helped by our current CF medicines.



* There are a significant number of patients who are eligible for more than one of our medicines, but CF patients may only be prescribed one of our medicines at a time.

Since the beginning of 2019:

- We obtained approval in October 2019 from the FDA for TRIKAFTA for treatment of patients with CF 12 years of age and older who have at least one *F508del* mutation five months ahead of our PDUFA date - representing one of the fastest FDA approvals of any medicine.
- TRIKAFTA was developed very rapidly and approved within four years after the first synthesis of elexacaftor, which is the final component of the triple combination regimen.
- We submitted a MAA to the European Medicines Agency, or EMA, which has been validated, for the triple combination of elexacaftor, tezacaftor and ivacaftor in patients 12 years of age and older.
- We are conducting a Phase 3 clinical trial evaluating elexacaftor/tezacaftor/ivacaftor and ivacaftor in children 6 to 11 years of age who have two *F508del* mutations or one *F508del* mutation and one minimal function mutation.
- We obtained a positive opinion from the EMA's Committee for Medicinal Products for Human Use for KALYDECO for infants as young as six months old.
- We obtained approval for KALYDECO in the United States and European Union for infants 6 to
- We obtained approval for SYMDEKO in the United States for children 6 to 11 years of age.
- We obtained reimbursement of ORKAMBI and/or SYMDEKO/SYMKEVI for eligible patients in several important ex-U.S. markets, including England, France, Australia and Spain.

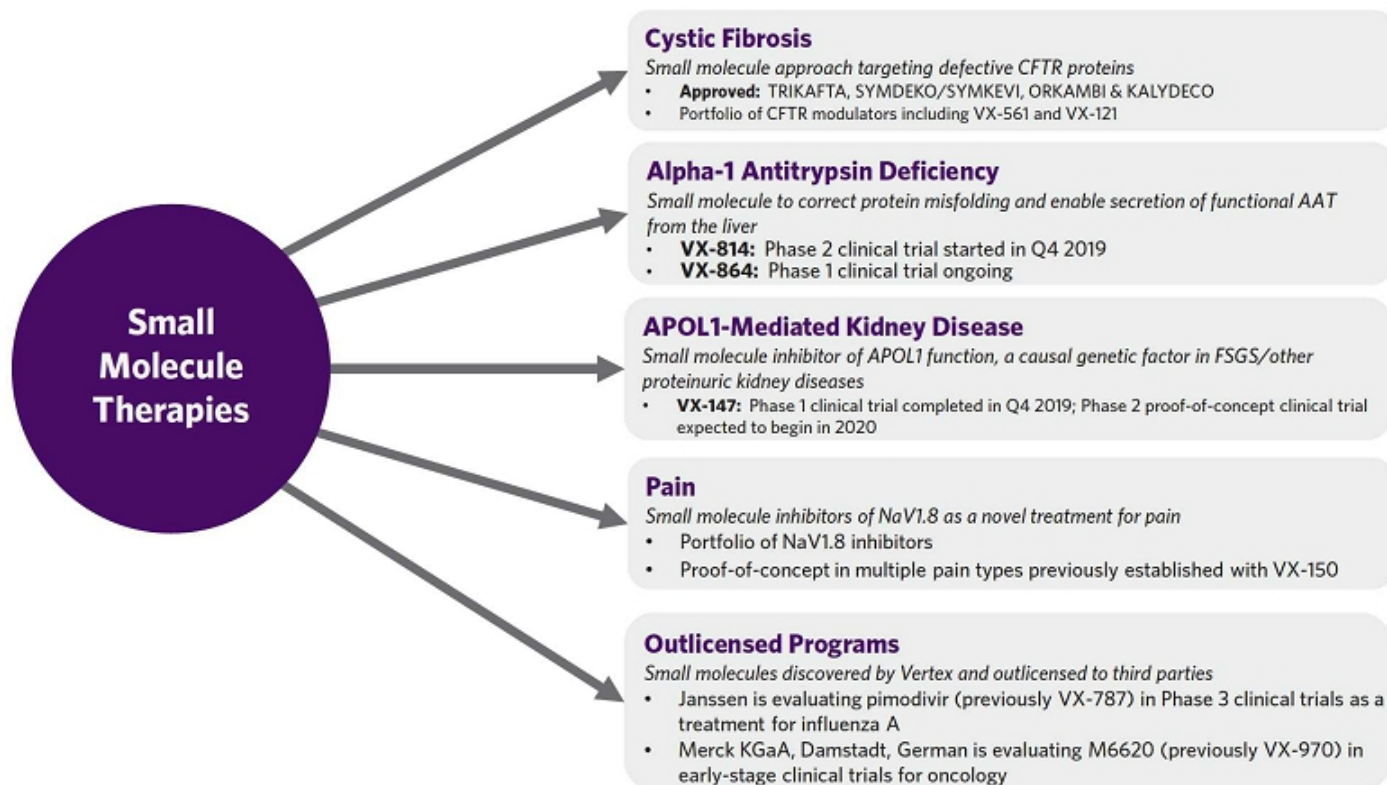
Research and Development

We invest in research and development in order to discover and develop transformative medicines for people with serious diseases. Our strategy is to combine transformative advances in the understanding of human disease with innovations in the science of therapeutics in order to identify and develop new medicines. Historically, our approach to drug discovery focused on the research and development of small molecule drugs. This approach has been validated through our success in moving novel small molecule drug candidates into clinical trials and obtaining marketing approvals for five transformative medicines in the past decade. In 2019, we had novel medicines in clinical trials in five diseases in addition to CF — AAT, APOL1-mediated focal segmental glomerulosclerosis, or FSGS, pain, sickle cell disease and beta-thalassemia. Over the last several years, we have expanded our research and development capabilities to include additional innovative therapeutic approaches with a focus on cell and genetic therapies.

Small Molecule Programs

Since the beginning of 2019, we advanced several promising small molecule programs:

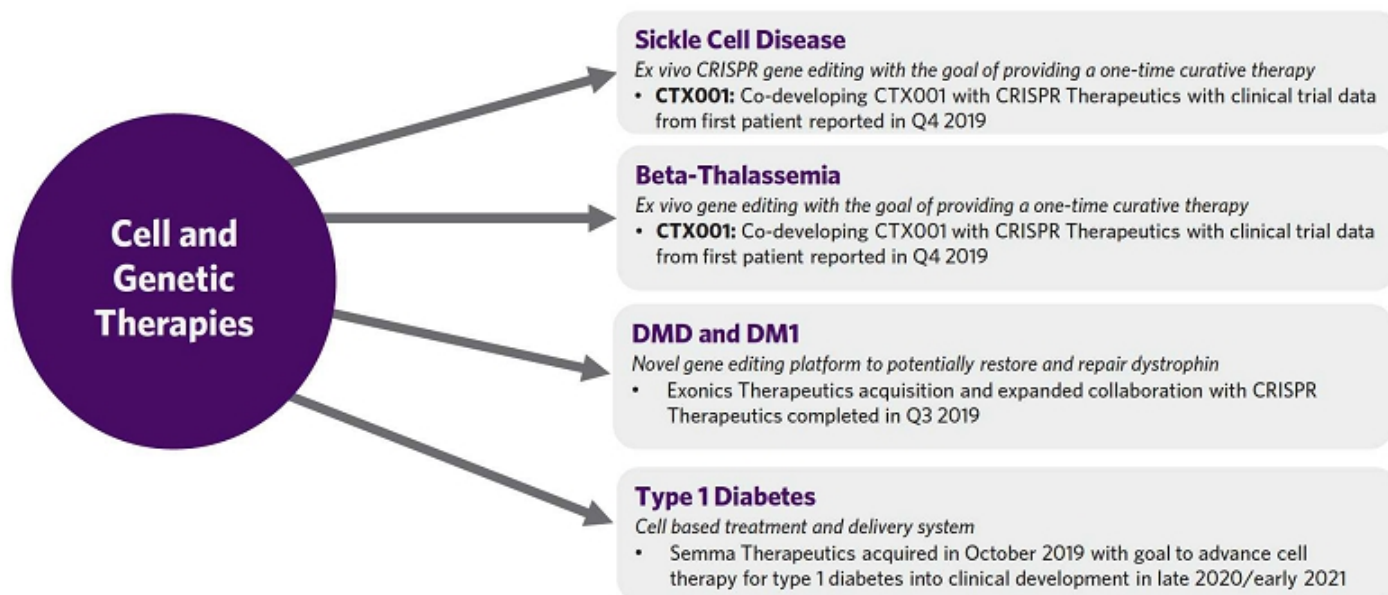
- **AAT Deficiency:** We initiated a Phase 2 proof-of-concept clinical trial for VX-814, our first investigational oral small molecule corrector for the treatment of AAT deficiency, in order to evaluate VX-814 in patients with AAT deficiency who have two copies of the Z mutation. A Phase 1 clinical trial of VX-864, a second investigational small molecule corrector for the treatment of AAT deficiency, is ongoing in healthy volunteers.
- **APOL1-mediated Kidney Disease:** In the fourth quarter of 2019, we completed a Phase 1 clinical trial evaluating VX-147, our first investigational oral small molecule for the treatment of FSGS, and other serious kidney diseases, in healthy volunteers. We plan to initiate a Phase 2 proof-of-concept clinical trial in 2020 to evaluate the reduction in protein levels with VX-147 in FSGS patients.
- **Pain:** We initiated clinical development of a novel NaV1.8 inhibitor for the treatment of pain in early 2020.
- **Influenza:** Our collaborator, Janssen Pharmaceuticals, Inc., is continuing to evaluate pimodivir, a compound we licensed to them in 2014, in Phase 3 clinical trials as a potential treatment for influenza A.



Cell and Genetic Therapies

In 2019, we advanced our pipeline of potentially transformative cell and genetic therapies through the advancement of our clinical programs and the acquisition of potentially transformative preclinical programs and technology platforms.

- **Sickle Cell Disease and Beta-Thalassemia:** Enrollment is ongoing in Phase 1/2 clinical trials evaluating the investigational CRISPR/Cas9 gene-editing therapy CTX001 for the treatment of severe sickle cell disease and beta-thalassemia. Along with our collaborator, CRISPR, we announced positive, interim data from the first two patients with these hemoglobinopathies treated with CTX001, data that demonstrated for the first time the curative potential of CRISPR/ Cas9 gene editing for a serious genetic disease. We expect to provide additional data for this program in 2020.
- **DMD and DM1:** We acquired Exonics Therapeutics and expanded our collaboration with CRISPR in order to support pre-clinical gene editing programs to develop treatments for DMD and DM1.
- **Type 1 diabetes:** We acquired Semma Therapeutics and are advancing cell-based therapy programs as potential treatments for T1D. We plan to advance this program into clinical development in T1D patients in late 2020 or early 2021.



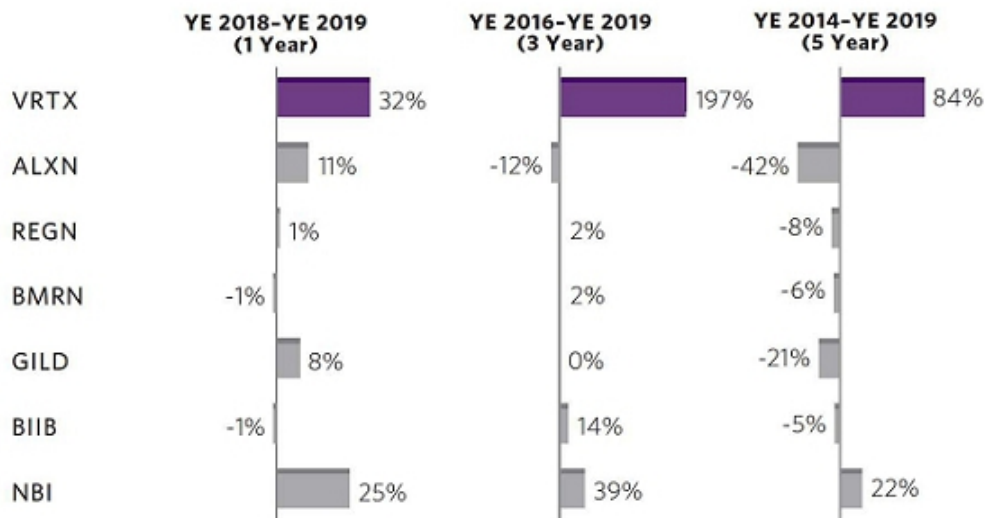
Increased Shareholder Value

Driven by our exceptional performance and the accelerated success of our pipeline, our stock price increased by 32% from \$165.71 per share at the end of 2018 to \$218.95 per share at the end of 2019.

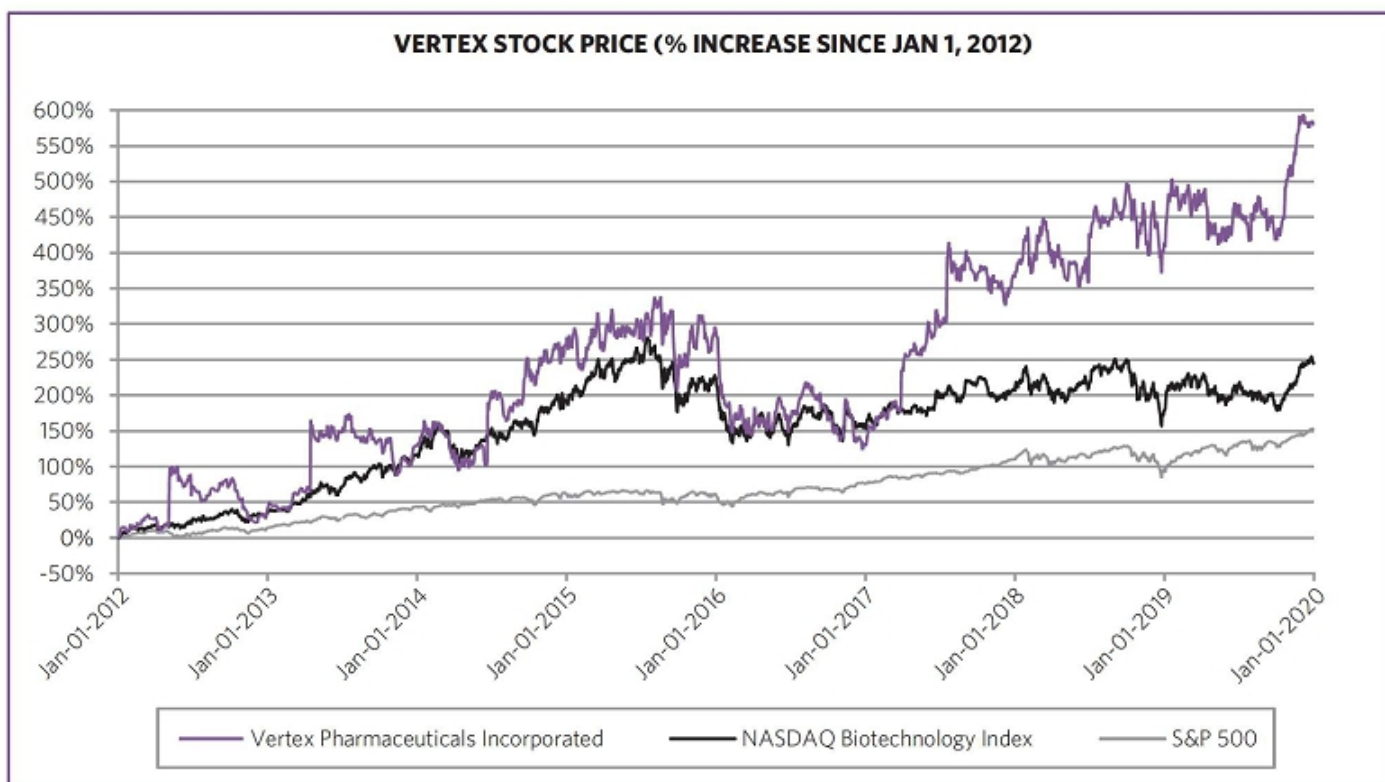


Although we were pleased with our performance in 2019, biotechnology companies are best measured over the long term and in comparison to their peers, as opposed to in one-year increments and in isolation. The following chart shows our total shareholder return during the 1-year, 3-year and 5-year periods ending December 31, 2019 compared to the NBI and the following members of our peer group: Alexion, Regeneron, BioMarin, Gilead and Biogen. These peers are the companies we consider most similar to our Company based on their business models (see pages 47 and 48).

PEER PERFORMANCE



The following chart shows our total shareholder return from the beginning of 2012, when KALYDECO was first approved, through December 31, 2019 relative to the S&P 500 and the NBI.



CEO Succession

In July 2019, following two years of succession planning, we announced that the Board of Directors unanimously elected Dr. Reshma Kewalramani, the company's then-Chief Medical Officer, to succeed Dr. Jeffrey Leiden as Chief Executive Officer and President, effective April 1, 2020. In July 2019, we also announced that Dr. Leiden would become Executive Chairman, for a three-year term, effective April 1, 2020. In his role as Executive Chairman, Dr. Leiden will focus on our business development organization, our cell and genetic therapy site and our government affairs activities, along with assisting on the transition and serving as the Chair of our Board. Bruce Sachs will continue in his role as Lead Independent Director. The Board believes this structure will help ensure continuity of strong and effective leadership.

The election of Dr. Kewalramani was the result of a thoughtful, multi-year succession planning process led by the independent Directors. During this time frame, the Board had the opportunity to observe and evaluate Dr. Kewalramani as a member of our executive team and to evaluate her commitment to Vertex and to our corporate strategy. The Board was impressed with Dr. Kewalramani's business performance, depth of experience, medical and scientific knowledge, and demonstrated leadership and, therefore, elected her to lead Vertex into the future. The appointment of Dr. Kewalramani as Chief Executive Officer combined with Dr. Leiden's appointment as Executive Chairman will provide strategic and leadership stability.

2019 Compensation Decisions and Pay-for Performance

In 2019, we received support from 96% of our shareholders on our say-on-pay proposal. We believe this support is consistent with our long-term shareholders' understanding of our business model and the long-term value we are creating. Our focus has been and continues to be on maintaining the strong link between our compensation programs and our ability to continue to develop transformative medicines while delivering sustained company performance. **Our compensation program is highly performance-based, with approximately 90% of our NEO compensation tied to performance.**

Retention of our talented executives is critical, as:

- their outstanding performance over the last eight years has led to the advancement of the company and the significant shareholder value that has been created; and
- their commitment to our corporate strategy and culture is critical as Dr. Reshma Kewalramani assumes the role of Chief Executive Officer and President and Dr. Jeffrey Leiden transitions from the role of Chief Executive Officer and President to the role of Executive Chairman.

In 2019, our board of directors and MDCC reviewed our compensation programs and made the following key decisions:

- **Program Design:** We maintained the program design that we implemented in 2016, which we believe closely ties pay with performance and has contributed to our short- and long-term successes, while adjusting the mix of equity as described below.
- **Base Salary:** We negotiated an employment agreement with Dr. Reshma Kewalramani, who became our CEO and President on April 1, 2020, which provides for a base salary of \$1.15 million. We negotiated a new employment agreement with Dr. Jeffrey Leiden designed to retain him for a three-year period as he transitions from the role of CEO and President to the role of Executive Chairman, with decreasing compensation over the three-year period. Dr. Leiden's salary as CEO remained unchanged at \$1.3 million from 2014 through his transition to Executive Chairman in March 2020, in alignment with the median CEO base salary of our peer companies. We increased the base salaries of certain of our executive vice presidents based on a comparative analysis with companies in our peer group and their contributions to the company.
- **Annual Cash Bonus:** We maintained the target bonus of 120% of base salary for our CEO. We increased the target bonus from 50% to 70% of base salary for our executive vice presidents based on a comparative analysis with companies in our peer group. The company's exceptional performance in 2019, as described above, resulted in a leading rating (a company rating of 150 out of a potential 150) for 2019 and annual cash bonuses near the high end of the range for 2019, commensurate with this performance.
- **Long-Term Equity Program:**
 - We adjusted our mix of equity, which now consists of 50% performance stock units that vest solely upon achievement of rigorous performance goals and 50% time-vesting restricted stock units that reward stock price appreciation but also serve as a retention tool. Previously, our equity mix consisted of 35% performance stock units, 35% restricted stock units and 30% stock options.
 - In 2019, we maintained our target equity grant for Dr. Leiden, as CEO, at \$12 million and increased the executive vice president target equity grants from \$3.5 million to \$4.0 million based on a comparative analysis with companies in our peer group. Dr. Kewalramani has a target equity grant for 2020 performance of \$11 million.
 - In early 2019, the MDCC established financial and non-financial metrics for the PSUs, with payouts earned based on achievement of these metrics. 50% of the PSUs were tied to CF net product revenues in 2019, while the remaining 50% are tied to specific clinical and research milestones over a three-year period.
 - We implemented changes to our broad based equity compensation program that reduced dilution from this program in 2019 with significant further reductions in dilution expected for 2020.

Shareholder Engagement

We believe that a robust shareholder outreach program is an important component of maintaining our strong corporate governance practices. We strive for a collaborative approach with investors to solicit and understand a variety of perspectives. During 2019, we solicited feedback from institutional investors representing approximately 60% of our outstanding shares. In our discussions with investors, we seek their input on a variety of corporate governance and sustainability topics and other issues that may impact our business or reputation.

Compensation Governance Practices

We continue to implement and maintain leading practices in our compensation program, shareholder outreach and related areas.

What We Do	What We Don't Do
Caps on awards	No executive perquisites
Multiple performance factors	No supplemental pension benefits for executives
Range of awards; not all or nothing	No single-trigger vesting in connection with a change-in-control for equity awards
Compensation recoupment (clawback) policy	No hedging or pledging or speculative transactions in our securities by directors and executive officers
Balance of short- and long-term incentives (through annual cash bonuses and equity awards)	No re-pricing of equity awards without shareholder approval
Executive and Non-Employee Director Stock Ownership Guidelines	No payment of dividends on unvested performance shares or units
Independent compensation consultant	No 280G gross-ups
Robust shareholder outreach	

Detailed Discussion and Analysis

Compensation Philosophy

Our MDCC regularly reviews the elements of the individual compensation packages for our chief executive officer and executive officers to achieve the following primary objectives:

- attract, retain and motivate talented and experienced individuals across all areas of our business;
- to align the interests of our executive officers with the interests of our shareholders as we seek to create value through the discovery, development and commercialization of transformative medicines; and
- ensure that the vast majority of compensation is performance-based.

Our executive officers have had long and varied careers and possess experiences and skills that make them extremely valuable members of our executive team and to our company as a whole. The stability and commitment of this team have been instrumental in building Vertex into the company it is today, with a leadership position in the treatment of CF, a pipeline of small molecule and cell and genetic therapies that have advanced significantly over the last several years, increasing revenues and a strong financial profile. All of these factors position Vertex to achieve its strategic objectives in future years.

Our MDCC and our board of directors seek to connect the achievement of our strategic objectives with our compensation program in a number of ways, including through detailed and measurable company goals that underlie our annual cash bonuses and the performance goals that are included in our equity awards. Our company goals involve a mix of goals relating to revenues from our current products, achievement of research and development objectives, our organizational capability and maintenance of our financial strength. These objectives are selected specifically because they are considered by our board to be measurable milestones that our company must achieve if it is to maintain its significant revenue growth and increase profitability. Our MDCC and board expects to continue to seek to balance the use of financial metrics and research and development goals in order to motivate our executive team to achieve financial objectives, while providing appropriate incentives for our management to continue to make investments in our business for the long term.

In determining compensation, we consider compensation paid by similar companies as reference points, but do not strictly benchmark or target compensation at any particular level. Rather, the MDCC retains flexibility to structure compensation based on good governance practices and our objectives of building our company and creating shareholder value.

Compensation Decision-Making Process

Role of MDCC and Chief Executive Officer in Setting Executive Compensation

The MDCC has responsibility for overseeing the design, development and implementation of the compensation program for our chief executive officer and other executive officers. The MDCC evaluates the performance of our chief executive officer and other executive officers. Our chief executive officer and our human resources group assist the MDCC in evaluating the performance of our other executive officers, including the named executive officers other than the chief executive officer. Our chief executive officer does not make any recommendations to the MDCC regarding CEO compensation and does not participate in the portions of MDCC meetings or meetings of the board of directors when CEO compensation is discussed and determined.

The members of the MDCC, each of whom is an independent director, together with the other independent directors, make final compensation decisions for the chief executive officer and other executive officers based on these assessments.

Role of Compensation Consultant

The MDCC (i) is directly responsible for the appointment and oversight of its compensation consultants, (ii) has the authority to determine the fees that we pay for services provided by such compensation consultants and (iii) prior to engaging any compensation consultant, considers applicable factors potentially affecting the independence of the compensation consultant, including the factors set forth in Nasdaq Marketplace Rule 5605(d)(3).

Annually, the MDCC engages a compensation consultant to conduct an analysis of all elements of our executive officer compensation compared to similar elements paid to similarly situated executives at companies in our peer group and to provide a written report and presentation of findings at the meeting of the MDCC that occurs in the summer each year. In 2019, the MDCC selected Pearl Meyer as its compensation consultant to conduct and present this analysis to the MDCC.

Pearl Meyer provides, and is compensated for, advice provided to us at the direction of the MDCC. The MDCC considered the following information provided to it by Pearl Meyer:

- Pearl Meyer's policies and procedures designed to prevent conflicts of interest;
- that fees paid by us to Pearl Meyer represent less than 1% of Pearl Meyer's total annual revenues;
- the absence of business and personal relationships between the compensation consultant and the MDCC or any of our executive officers; and
- that Pearl Meyer's partners, consultants and employees who provide services to the MDCC, and their immediate family members, do not own shares of our common stock.

Based on these, and other factors considered by the MDCC, the MDCC determined that Pearl Meyer's work did not raise a conflict of interest.

Use of Peer Group Companies

In order to make judgments about elements of executive compensation on a competitive basis, the MDCC and our board of directors considers information about the compensation practices of a representative group of companies with whom we compete for executive talent, or our Peer Group. We conduct a detailed analysis to select companies for this Peer Group on the basis of similarity and complexity of business model. Selecting a peer group for our company is difficult because of the limited number of companies that are at a similar stage of development and our level of revenues. As a result, we use a mix of quantitative and qualitative factors in order to establish our peers, including the following:

Factor Considered	What We Look For
Similar industry	Biotechnology or pharmaceutical industry
Importance of medicines to patients and society	Transformative medicines for serious diseases; therapeutics for unmet needs
Recognized focus on innovation	Breakthrough Therapy designations, priority review and/or other markers indicating unmet need
Global operations	Significant operations outside the U.S.
Commercial operations	Marketing and selling approved medicines
Significant R&D investment	Greater than \$1B or 25% of revenue
Number of employees	Greater than 750 employees
Market capitalization and significance to broader economy	Market cap at least ¼ our size and/or inclusion on S&P 500 or NASDAQ 100
Labor market competitor	Companies we compete with for executive talent
Companies that use Vertex as a peer	Inclusion of Vertex in proxy reported peer group

Although we consider revenue as a factor, we do not emphasize it, as we do not believe it is an adequate reflection of whether companies have a similar business model or complexity particularly at our stage of maturity. A company with similar revenues may not have global or commercial operations like we have, or it may focus on generic medicines rather than innovative therapies; either of these factors would result in a different business model that required a relatively smaller investment in research and development. Moreover, companies with similar revenues may not focus on innovative therapies such as those designated as Breakthrough Therapies by the FDA, a designation

which can expedite the development and review of medicines that are intended to treat serious conditions where preliminary clinical evidence indicates that the medicine may demonstrate substantial improvement over available therapy. As a result, we believe the factors listed above provide a better way to assess similarity versus a reliance on the combination of revenue and industry. We also note that it is unlikely for companies to align on all the factors listed above, so we look for companies meeting a majority of the criteria although we place greater weight on companies focused on innovation and importance of medicines to patients and society as we believe these are the key drivers of our business model. We also focus on market capitalization over revenue because we believe it is a better indicator of the complexity of a company's business model in our industry. On a regular basis, we review and revise the list of companies with the goal of maintaining a group of comparators comprised of at least twelve companies.

As a result of this analysis, and on the basis of the criteria listed above, the MDCC selected the following comparator companies for 2019, which were the same comparator companies that were used in 2018. In 2020, we expect that we will make changes to our peer companies because Celgene Corporation and Shire plc, two of our 2019 peers, are no longer public companies. The Core Peers are the peers we considered most similar to us in terms of business model.

2019 Peer Companies	
Core Peers	Alexion Pharmaceuticals, Inc. Biogen Inc. BioMarin Pharmaceutical Inc. Celgene Corporation Gilead Sciences, Inc. Regeneron Pharmaceuticals, Inc.
Other Peers	Abbvie Inc. Alkermes plc Amgen Inc. Jazz Pharmaceuticals plc Incyte Corporation Shire plc United Therapeutics Corporation

We believe, based on our discussions with major shareholders, that the Peer Group identified by the MDCC is consistent with our shareholders' views of our relevant peers in the biotechnology industry. In addition, the Peer Group companies have many of the business model characteristics that we seek in comparator companies as set forth in the following table.

Company Information		R&D Expense ⁽¹⁾		Operational Focus		Innovative and Importance of Medicines			Uses Vertex as Peer	Market Position	
						Orphan/ Unmet Clinical Need	Breakthrough Therapy Designations (2)	Innovative Drugs in Last 8 Years ⁽³⁾		Nasdaq 100	S&P 500
Company	Industry	\$ (millions)	% of Revenue	Global	Commercial	Unmet Clinical Need	Breakthrough Therapy Designations (2)	Innovative Drugs in Last 8 Years ⁽³⁾	Vertex as Peer	Nasdaq 100	S&P 500
AbbVie	Biotech	\$ 6,792	20%	✓	✓	✓	7	7			✓
Alexion	Biotech	\$ 886	18%	✓	✓	✓	1	3			✓
Alkermes	Biotech	\$ 513	44%	✓	✓	✓	0	2	✓	✓	✓
Amgen	Biotech	\$ 4,116	18%	✓	✓	✓	1	7		✓	✓
Biogen	Biotech	\$ 2,281	16%	✓	✓	✓	0	5	✓	✓	✓
BioMarin	Biotech	\$ 715	42%	✓	✓	✓	1	3	✓	✓	✓
Celgene ⁽⁴⁾	Biotech	—	—	✓	✓	✓	0	4	✓		
Gilead	Biotech	\$ 9,106	41%	✓	✓	✓	4	7		✓	✓
Incyte	Biotech	\$ 1,169	54%	✓	✓	✓	0	2	✓	✓	✓
Jazz	Pharma	\$ 653	30%	✓	✓	✓	0	2	✓		✓
Regeneron	Biotech	\$ 3,037	39%	✓	✓	✓	4	5	✓	✓	✓
Shire ⁽⁴⁾	Biotech	—	—	✓	✓	✓	0	5			
United Therapeutics	Biotech	\$ 1,183	82%	✓	✓	✓	0	3	✓		
Vertex	Biotech	\$ 1,755	42%	✓	✓	✓	8	5		✓	✓

(1) R&D Expense (including certain expenses related to intangible assets) and R&D Expense as a % of Revenue reflect the trailing data for the most recent four quarters as of December 31, 2019 per the S&P Capital IQ database.

(2) Per the Center for Drug Evaluation and Research (CDER) Breakthrough Therapy Approvals report, which lists approvals for breakthrough therapy designated drugs.

(3) Innovative drugs in the last eight years include: VIEKIRA PAK, IMBRUVICA, VENCLEXTA, ORILISSA, MAVYRET, RINVOQ and SKYRIZI (AbbVie), STRENSIQ, ULTOMIRIS and KANUMA (Alexion), ARISTADA and VUMERITY (Alkermes), AIMOVIQ, BLINCYTO, XGEVA, PROLIA, KYPROLIS, PARSABIV, and EVENITY (Amgen), TECFIDERA, ALPROLIX, SPINRAZA, ELOCTATE and VUMERITY (Biogen), BRINEURA, PALYNZIQ and VIMIZIM (BioMarin), IDHIFA, POMALYST, ABRAXINE and OTEZLA (Celgene), YESARTA, SOVALDI, HARVONI, VEMLIDY, CAYSTON, ZYDELIG and BIKTARVY (Gilead), JAKAFI and OLUMIANT (Incyte), VYXEOS and DEFITELIO (Jazz), DUPIXENT, LIBTAYO, PRALUENT, EYLEA and ZALTRAP (Regeneron), MYDAYIS, TAKHZYRO, FIRAZYR, NATPARA and GATTEX (Shire) and REMODULIN, ORENITRAM and UNITUXIN (United Therapeutics).

(4) Celgene Corporation and Shire plc were acquired in 2019.

We do not strictly benchmark to a particular level of compensation relative to compensation levels at the Peer Group companies, but rather make a judgment about where each executive should fall in comparison with executives with similar responsibilities at the Peer Group companies. We believe this should mitigate concerns regarding our Peer Group including companies that have significantly higher revenues than our current revenues. The MDCC looks at Peer Group information to confirm that our compensation levels are competitive with those of the Peer Group companies and consistent with our compensation philosophy. In addition, the MDCC reviews broader industry specific executive compensation surveys published by Radford, Mercer SIRS and Willis Towers Watson, but does not make any material compensation decisions based on any particular company participants in such surveys.

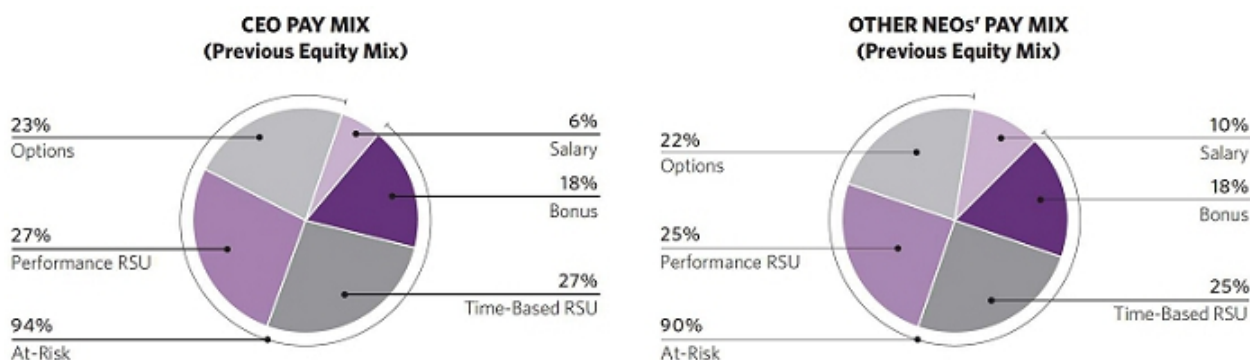
Elements of Annual Compensation

Our practice is to target total direct compensation including base salary, annual cash incentives targets and long-term incentive targets at market competitive levels depending upon the NEO's responsibilities, expertise and experience. At superior levels of performance, we aim for the design of our executive compensation program to result in actual total direct compensation at or above the seventy-fifth percentile of peer executives. Each year we review the balance of elements of our executive compensation program to ensure that they are appropriately designed in light of our goals to align the program with our shareholders' interests, the competitive environment and our business strategy.

Our executive compensation program uses a mix of long-term equity compensation awards to incent and reward those individuals who make the greatest contribution to our company performance over time. For the NEOs, this means compensation is primarily in the form of equity and directly tied to changes in shareholder value over time. For our 2020 equity grants, we adjusted our mix of equity due to the evolution of our company to emphasize performance restricted stock units and time-based restricted stock units and eliminate options. These adjustments are consistent with the significant changes that we made to our equity program in 2016, when we adopted a value-based approach to granting equity awards, decreased our emphasis on stock options and introduced performance restricted stock units that vest only upon achievement of financial and non-financial goals.

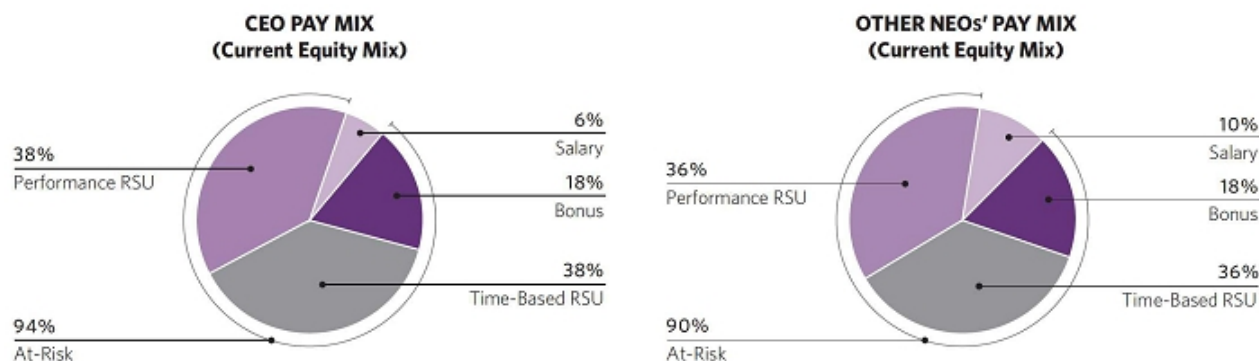
Compensation Program

As shown in the following charts, our compensation program places an emphasis on performance-linked compensation, with approximately 90% of our NEO compensation tied to performance.



The charts above represent the values based on the summary compensation table for our current executive officers using the target value for PSUs grants instead of the fair value of these PSUs grants. These charts exclude the compensation of a former executive officer and our interim CFO who served for a portion of 2019.

For our February 2020 grants based on 2019 performance, we increased our emphasis on performance restricted stock units and time-based restricted stock units and eliminated options. If those adjustments had been in effect in February 2019, the following would have been our CEO and other NEOs' pay mix for 2019.



Performance-Linked Value-Based Program

We have a performance-linked program that is consistent with programs implemented by our peers and allows us to attract, retain and motivate talented and experienced individuals across all areas of our business. We focus on performance-linked elements as follows:

Compensation Element	Performance Link
Annual Cash Bonus	Annual bonus dependent on company performance factors and individual performance
Equity Awards	Grant date value of equity awards based on individual performance Value of shares granted based on target set by MDCC and Board, adjusted for individual performance ranging from 0% for below target individual performance, 100% at target performance, and up to 150% for above target individual performance
Performance Stock Unit Awards	<ul style="list-style-type: none"> 50% of PSUs with range of shares issued 0% to 200% of target based on one year financial metric (vesting in installments over a three year period) 50% of PSUs with range of shares issued 0% to 200% of target based on three-year non-financial metrics (cliff-vesting after three years)
Time-Based Restricted Stock Units	<ul style="list-style-type: none"> Value of awards increases or decreases based on increases or decreases in stock price

More specifically:

- Performance Stock Units.** Our NEOs receive 50% of their annual target equity compensation in the form of PSUs. The PSUs vest, if at all, based half on financial goals (to date, CF net product revenue goals over a one-year period) and half on non-financial goals (to date, multiple clinical milestones over a three year period). The financial PSUs vest over a three year period and the non-financial PSUs cliff vest after three years. The potential shares earned pursuant to the performance stock unit awards range from 0% to 200% of the target shares with the number of shares actually issued based on financial and non-financial measures. The MDCC selected revenue and clinical development milestones because the MDCC determined that these milestones are important measurable metrics, the achievement of which would indicate successful execution toward our long-term strategic objectives.
- Time-based Stock Units.** Our NEOs receive 50% of their annual target equity compensation in the form of time-based restricted stock units which vests over a three year period. We believe that with a fifty percent of the annual long-term incentive award at risk based on our successful execution of our strategic objectives, it is important to have a portion of the long-term equity annual award focused on retaining our key executive talent. As a result, we believe time-based restricted stock units encourage retention and focus on long-term value creation thereby providing alignment with our shareholders.

Prior to the adjustment to our equity compensation mix for our February 2020 equity grants, our executive officers received 35% of the equity in performance restricted stock units, 35% of the equity in time-vesting restricted stock units and 30% of the equity in the form of stock options, as reflected in the summary compensation table.

Maintenance of Broad-Based Equity Program While Reducing Dilution

Since our inception, we have compensated all eligible employees using a mix of cash and equity. The broad-based nature of our equity compensation program is an important element of our overall employee compensation program and reflects our philosophy that it is important for all of our employees to approach their jobs with a long-term commitment and perspective. Over the last several years, we have modified our equity compensation programs. These modifications are consistent with modifications other biotechnology companies have made as they matured from development-stage companies to commercial-stage companies with a strong financial profile. As a result of these changes, we granted, on an absolute basis, equity awards representing 51% fewer shares of common stock in 2019 as compared to 2012 and reduced our “burn rate” from 3.6% in 2012 to 1.4% in 2019. These reductions were achieved while we significantly increased our headcount during this period. In 2020, we expect that due to full implementation of the changes to our broad-based equity program that there will be a significant further decrease in our gross burn rate.

	2012 Equity Awards	2013 Equity Awards	2014 Equity Awards	2015 Equity Awards	2016 Equity Awards	2017 Equity Awards	2018 Equity Awards	2019 Equity Awards	% Change 2012 v 2019
Total Shares Granted Subject to Equity Awards	7,525,000	6,276,000	5,629,000	5,035,000	4,887,000	4,470,000	4,391,000	3,687,000	(51)%
Gross Burn Rate ⁽¹⁾	3.6%	2.8%	2.4%	2.1%	2.0%	1.8%	1.7%	1.4%	
Awards Canceled, Forfeited or Expired	1,644,000	2,622,000	1,628,000	1,573,000	928,000	1,107,000	826,000	886,000	
Net Dilution	5,881,000	3,654,000	4,001,000	3,462,000	3,959,000	3,363,000	3,565,000	2,801,000	(52)%
Net Burn Rate	2.8%	1.6%	1.7%	1.4%	1.6%	1.3%	1.4%	1.1%	

(1) “Burn rate” is defined as the number of equity awards granted in a specific year divided by the basic weighted average number of shares outstanding during that year.

Base Salary

The MDCC recommends base salaries for each of our executive officers based on multiple factors, including a competitive market analysis on a position-by-position basis. Annually, the MDCC reviews tables showing a comparison of each executive's prior year base salary and cash bonus opportunity, measured at the target level, to salaries and cash bonuses reported for executives with similar responsibilities at comparable companies. We do not strictly benchmark to a particular level of compensation relative to compensation levels at the Peer Group companies. Instead, our judgment about where each executive should fall in comparison with executives with similar responsibilities at the Peer Group companies takes into account the executive's general level of experience and capability, the significance of his or her job responsibilities to the achievement of our business strategy and company goals, and general performance over time, including demonstration of the values and desirable behaviors under our values into practice program. On the basis of that information, including compensation at Peer Group companies, and taking into consideration the executive's base salary for the previous year, the MDCC recommends an appropriate salary for each executive officer, subject to final approval by our independent directors. Our current base salaries reflect each individual executive's past and expected future contributions, performance, experience, specific responsibilities relative to peer benchmarks and competitive positioning within the range around the median base salaries for peer counterparts in our Peer Group.

Dr. Leiden's base salary was unchanged at \$1,300,000 from 2014 until March 31, 2020 when he transitioned to the role of Executive Chairman. Dr. Leiden's salary for the first year of his term as Executive Chairman is \$1,000,000 and his contract provides that this salary will be reduced to zero for the second year and third year of his term as Executive Chairman.

Dr. Reshma Kewalramani's base salary was increased to \$800,000 in July 2019, when we announced she would become our next CEO and President in April 2020. Dr. Kewalramani's initial base salary as our CEO and President was set at \$1,150,000 based on multiple factors, including her prior experience, her performance as our Executive Vice President and Chief Medical Officer and a competitive market analysis.

Mr. Wagner joined us in early 2019, and his initial base salary was a result of negotiations between us and Mr. Wagner, which was informed by his prior experience and a market analysis.

In 2019, we increased Mr. Arbuckle's base salary from \$750,000 to \$800,000 after a review of the base salaries of peers and in recognition of his role and contributions to the company.

Name	Base Salary	Approximate Peer Ranking (Percentile) ⁽¹⁾	Base Salary Effective April 1, 2020	Approximate Peer Ranking (Percentile) ⁽¹⁾
Jeffrey M. Leiden	\$1,300,000	55th	\$1,000,000	n/a
Reshma Kewalramani	\$ 800,000	>75th	\$1,150,000	25th
Charles F. Wagner, Jr.	\$ 700,000	40th		
Stuart A. Arbuckle	\$ 800,000	60th		
Amit Sachdev	\$ 540,750	>75th		

(1) Peer rankings based on salary information from 2018.

Company and Individual Ratings

The amounts for two of the principal elements of our executive compensation program - annual cash bonus and annual equity awards - are determined on the basis of annual company and individual performance ratings.

Overview of Company Performance Rating & Achievement in 2019

At the beginning of each year, our board of directors, in consultation with our CEO, establishes company-wide goals for that year. While our performance against these goals is the most important factor considered by our board in assessing our corporate performance, our board considers additional accomplishments and shortcomings and may increase or decrease the performance scores (although the company score may not exceed 150). Although the directors discuss and analyze our performance as a group, each director makes his or her own judgment about specific performance factors and accomplishment of the goals in reaching a conclusion.

For 2019, the board set company goals and assigned relative weights that reflected our operational, strategic and financial objectives for the year and the importance of these goals to our long-term goals of revenue growth and increasing profitability. Our revenue goals for marketed and approval stage products were designed to incentivize increasing access to our medicines through approvals of new transformative medicines, label-expansions for our existing medicines and negotiating reimbursement agreements in ex-U.S. markets and were not set, achieved through or dependent upon, price increases. Our pipeline goals and our budgets were established with the expectation that we would reinvest in research and development and external innovation with the goal of developing additional transformative medicines. Our 2019 weighted goals and the year-end score achieved by the company and assigned by the board are set forth in the following table:

Goal(s)	Maximum Score	Actual 2019 Performance Score
Marketed and Approval-Stage Products	55	55
<ul style="list-style-type: none"> Achieve CF net product revenue goals through compliant marketing practices, including U.S. and ex-U.S. revenue goals Achieve reimbursement in one or more significant ex-U.S. markets 		
Pipeline Growth	60	57.5
<ul style="list-style-type: none"> Complete Phase 3 development of triple-combination and submit for regulatory approval in U.S. and Europe Accelerate development of triple-combination in patients 6-11 years of age Obtain approval in U.S. for SYMDEKO for patients 6-11 years of age Advance multiple non-CF development programs, including Phase 1 and Phase 2 clinical trials Advance multiple research programs, including CF and non-CF programs 		
Organizational Development and Capability	15	15
<ul style="list-style-type: none"> Fill critical positions with superior and diverse talent to support business growth Improve infrastructure to support expanding business Continue to ensure a strong compliance mindset and enterprise-wide risk management program 		
Financial Strength	20	20
<ul style="list-style-type: none"> Manage operating expenses and achieve financial targets 		
Additional Accomplishments and Shortcomings, Net (see page 53 of this proxy statement)		2.5
TOTAL	150	150

Our 2019 company performance score was 150 out of a potential of 150. Our 2020 company performance will be evaluated against the broad categories set forth above, with the same weighting with respect to Marketed and Approval-Stage Products (55 points), Pipeline Growth (60 points), Organizational Development and Capability (15 points) and Financial Strength (20 points).

Detailed Discussion of Company Performance Rating Factors and Achievements

Goals - Marketed and Approval-Stage Products

In 2019, CF net product revenues increased to \$4.16 billion, up 37% as compared to 2018. In evaluating our performance against our goals, we excluded approximately \$0.16 billion of one-time revenues from the fourth quarter of 2019.

- Our adjusted CF net product revenues exceeded the mid-point of our initial CF net product revenue guidance by approximately \$500 million (\$4 billion actual as compared to the mid-point of our initial guidance of \$3.5 billion) as a result of the accelerated approval of TRIKAFTA in the fourth quarter of 2019 and the continued strong revenues from SYMDEKO/SYMKEVI, ORKAMBI and KALYDECO.
- We obtained reimbursement of ORKAMBI and/or SYMDEKO/SYMKEVI for eligible patients in several important ex-U.S. markets, including England, France, Australia and Spain.

For marketed and approval-stage products goals, our board assigned the company a score of 55 out of 55, due to our exceeding our goals with respect to total CF net product revenues and the successful conclusion of reimbursement negotiations for our medicines in ex-U.S. markets.

Goals - Pipeline Growth (Late and Early-Stage)

In 2019, we made significant progress advancing our CF medicines and broadening and deepening our pipeline.

In CF, we:

- Obtained approval in October 2019 from the FDA for TRIKAFTA for treatment of patients with CF 12 years of age and older who have at least one *F508del* mutation five months ahead of our PDUFA date - representing one of the fastest medicine approvals by the FDA.
- Obtained approval for KALYDECO in the United States and European Union for infants 6 to
- Obtained approval for SYMDEKO in the United States for children 6 to 11 years of age.
- Submitted a MAA to the EMA which has been validated, for the triple combination of elxacaftor, tezacaftor and ivacaftor in patients 12 years of age and older.
- Initiated Phase 3 clinical trials evaluating elxacaftor/tezacaftor/ivacaftor and ivacaftor in children 6 to 11 years of age who have two *F508del* mutations or one *F508del* mutation and one minimal function mutation.

We also made significant progress toward meeting our goal of diversifying our portfolio as we advanced promising programs in a variety of diseases and invested in external innovation. Specifically, we:

- Advanced clinical development of VX-814 and VX-864, two small molecule drug candidates that we are evaluating as potential treatments for AAT.
- Initiated clinical development of VX-147, a small molecule drug candidate that we are evaluating as potential treatments for FSGS.
- Obtained positive, interim data from the first two patients with severe sickle cell disease and beta-thalassemia for CTX001, which we are co-developing with CRISPR.
- Advanced cell-based therapy programs as potential treatments for T1D following our acquisition of Semma Therapeutics in the fourth quarter of 2019.
- Advanced pre-clinical programs to develop treatments for DMD and DM1 following our acquisition of Exonics and the expansion of our collaboration with CRISPR.

On the basis of the accomplishments in advancing our research and development programs and, in particular, the accelerated approval of TRIKAFTA and the advancement of multiple small molecule drug candidates and cell and genetic therapies, our board assigned the company a score of 57.5 out of 60 for our pipeline growth goal.

Goals - Organizational Development and Capability

Talent and expertise

We strengthened our organizational capabilities by attracting, developing and retaining the key talent necessary to operate our business, including filling 15 of 16 critical hires with superior and diverse talent.

Systems and Infrastructure

We continued improvement of infrastructure to support an increasingly complex organization, including enhancing policies, software platforms and business processes.

Ethics and Compliance

We continued to promote effective governance, communication and training to support our company-wide compliance and risk management programs.

To reflect the improvements to our organizational structure, processes and systems achieved in 2019, our board assigned the company a score of 15 out of 15 for our organizational development and capability goals.

Goals - Financial Strength

We exceeded all of our financial goals in 2019. Our combined R&D and SG&A expenses for 2019 were within the guidance we provided at the beginning of 2019. Our operating income increased by 89% as compared to 2018. Our increased cash flows were achieved while managing our operating expenses allowing us to reinvest approximately \$1.6 billion in external innovation and strengthen our balance sheet. As a result, we ended 2019 with cash, cash equivalents and marketable securities of approximately \$3.8 billion.

As a result of our strong financial performance, including increasing revenues and managing operating expenses, our board assigned the company a score of 20 out of 20 for our financial strength goals.

Additional Factors (accomplishments and/or shortcomings)

In connection with determining our 2019 company rating, our board of directors made positive and negative adjustments based on factors not anticipated when the company's original goals for 2019 were established. By design, the potential adjustment is capped at $\pm 10\%$ (or ± 15 points) and used by the board to address and highlight important achievements and or shortcomings. The positive adjustments were primarily related to our success in obtaining early approval and executing a successful early launch for TRIKAFTA in the United States and success in obtaining reimbursement agreements for ORKAMBI and/or SYMKEVI in multiple important ex-U.S. markets. Overall, the board of directors increased our company rating by seven points for positive additional accomplishments, which was offset by a one point downward adjustment related to additional negative factors. Since our overall goal performance cannot exceed 150%, our board reduced the possible net adjustment of six points to 2.5 points to arrive at a maximum score of 150 points.

2019 Individual Performance Ratings - Overview

The MDCC evaluates executives' individual performance on a "results-based, values-tempered" basis, which takes into account not only "what" was accomplished, but "how" it was accomplished. The results-based component evaluates the executive officer's performance in his or her individual role and as a leader of our company in achieving our objectives. The possible individual results-based performance ratings are "not building," "building," "strong" or "leading." The values-tempered component of the individual evaluations builds upon our company core values: "uncompromising commitment to patients;" "innovation is our lifeblood;" "fearless pursuit of excellence" and "we wins" and are based on whether the decisions made by the executives were consistent with these values and what is in the best interests of the company in the long term. Under our values into practice program, we expect all employees to demonstrate our company core values in all aspects of job performance. We further expect that our executives will be stewards of our core values, and the performance ratings assigned to them incorporate our board's assessment of the strength of their leadership with respect to, and demonstration of, values-based behavior. This evaluation results in ratings of "not demonstrating," "living the values" or "exemplary demonstration." The possible individual performance ratings under this program are as set forth in the following table:

		Results Evaluation			
		Not Building Consistency	Building Consistency	Strong	Leading
Values Evaluation	Exemplary Values Demonstration	N/A	Strong (80-120%)	Leading (120-150%)	Leading Exemplary (150%)
	Living the Values	Not Building (0%)	Building (50-80%)	Strong (80-120%)	Leading (120-150%)
	Inconsistent Demonstration	Not Building (0%)	Not Building (0%)	Building (50-80%)	N/A

The 2019 results-based rating recommendation for each NEO, other than our CEO, is the combined result of the MDCC members' own observations and a review of the executive's role in the accomplishment of the corporate goals and recommendations, the latter of which is provided to the MDCC by our chief executive officer and is made on the basis of his independent assessment of each executive officer's performance. The MDCC and Dr. Leiden discussed each recommendation at length, on both an individual and comparative basis. Upon completion of these discussions, the MDCC finalized its recommendation for the results-based rating for each executive. The final recommendations took into account Dr. Leiden's recommendations, the opinions of MDCC members (based on the executive's contributions and the MDCC members' interactions with the executive), as well as other factors. The MDCC gave Dr. Leiden's recommendations greater weight when determining the values-based rating than when determining the results-based rating, as the values-based rating is pertinent to the executive's daily interactions in carrying out his or her duties. Furthermore, the MDCC believes that, in his role as CEO, Dr. Leiden had greater visibility than the MDCC members into the quality of these interactions. Taking into account all of the factors raised in the discussion and the assigned individual performance rating, the MDCC assigns an individual performance factor for each NEO within the ranges set forth above. While the individual ratings are not 100% objective, we view them as critical factors indicative of management success and crucial to achieving the more objective goals discussed above. The results-based and values-based evaluations for our CEO are based on a similar assessment of the CEO's individual performance by our MDCC and independent directors.

2019 Actual Individual Ratings for Named Executive Officers

Dr. Jeffrey Leiden Executive Chairman (CEO and President through March 31, 2020)	2019 Rating:	Leading Exemplary
	2019:	\$ 1,300,000
	2019 Bonus:	\$ 3,510,000
	LTI Equity Grants (Feb 2020):	\$15,240,000

On the basis of the MDCC's recommendation, our independent directors rated Dr. Leiden's overall performance for 2019 as "leading exemplary," with an individual performance factor of 150%. The performance rating for Dr. Leiden combined a "leading" results-based rating with an "exemplary demonstration" values-based rating. The rating derived principally from his leadership of our executive team, which included:

- Executing our corporate strategy, which for more than eight years has maintained its focus on developing transformative medicines for serious diseases and achieving our business goals
- Significantly exceeding all 2019 financial targets while accelerating delivery of transformative medicines to patients
- Advancing our CF programs, in particular the accelerated approval of TRIKAFTA in the United States
- Directing business development transactions that have enhanced the company's capabilities in various therapeutic modalities and created our cell and genetic therapy programs for T1D and DMD/DM1
- Recruiting, mentoring and developing our outstanding senior leadership team and working collaboratively with the board with respect to succession planning and his ongoing role with the company
- Enhancing Vertex's corporate reputation through, among other activities, patient engagement, corporate giving and diversity and inclusion initiatives
- Coordinating, as the chair of our board, clear, open and constructive communication between our board and management regarding key business and strategic issues
- Exhibiting outstanding personal and leadership qualities and embodying Vertex's core values with an uncompromising commitment to patients

Reshma Kewalramani Chief Executive Officer and President (EVP and CMO through March 31, 2020)	2019 Rating:	Leading Exemplary
	2019 Salary:	\$ 800,000
	2019 Bonus:	\$ 1,260,000
	LTI Equity Grants (Feb 2020):	\$ 6,000,000

The MDCC recommended and the board adopted an overall rating of "leading exemplary" for Dr. Kewalramani based on a results-based rating of "leading" and a values-based rating of "exemplary demonstration" with an individual performance factor of 150%. Dr. Kewalramani's rating derived from her leadership of global medicines and development organizational and the broader leadership role she assumed during the second half of 2019, including:

- Accelerating the Phase 3 pivotal programs of multiple triple-combination therapies for the treatment of CF, which led to the early approval of TRIKAFTA in the United States in the fourth quarter of 2019 and the submission of an MAA for the triple combination in Europe
- Recruiting and developing a strong global medicines and development leadership team and building out the infrastructure that will be necessary to support the simultaneous development of multiple clinical development programs
- Advancing our non-CF small molecule pipeline, including establishing clinical programs to evaluate drug candidates for the treatment of AAT and FSGS
- Advancing CTX-001, our gene editing program for the treatment of sickle cell disease and beta-thalassemia, into patients and demonstrating for the first time ever the curative potential of gene editing in serious human genetic diseases
- Collaborating with Dr. Leiden and the other members of our executive team in order to prepare for her appointment as CEO and President and Dr. Leiden's transition to Executive Chairman
- Exhibiting outstanding leadership qualities and advancing Vertex's values

Charles F. Wagner, Jr. EVP, Chief Financial Officer	2019 Rating:	Leading
	2019 Salary:	\$ 700,000
	2019 Bonus:	\$ 992,250
	LTI Equity Grants (Feb 2020):	\$ 5,000,000

The MDCC recommended and the board adopted an overall rating of "leading" for Mr. Wagner based on a results-based rating of "strong" and a values-based rating of "exemplary demonstration" with an individual performance factor of 135%. Mr. Wagner's rating derived from his leadership of the finance, accounting, investor relations and operations organizations, including the following:

- Overseeing an outstanding financial year for Vertex, including managing operating expenses in accordance with our budget and guidance
- Successfully managing the integration of our two significant acquisitions, Exonics in the third quarter of 2019 and Semma in the fourth quarter of 2019
- Successfully recruiting and developing multiple new senior members of the finance organization

Stuart A. Arbuckle	2019 Rating:	Leading Exemplary
EVP, Chief Commercial Officer	2019 Salary:	\$ 800,000
	2019 Bonus:	\$ 1,260,000
	LTI Equity Grants (Feb 2020):	\$ 6,000,000

The MDCC recommended and the board adopted an overall rating of “leading exemplary” for Mr. Arbuckle based on a results-based rating of “leading” and a values-based rating of “exemplary demonstration” with an individual performance factor of 150%. Mr. Arbuckle’s rating derived from his leadership of the commercial organization, including the following:

- Delivering CF net product revenues of over \$4.0 billion in 2019, which was \$500 million greater than budget
- Planning and leading the successful U.S. launch of TRIKAFTA for patients 12 years of age and older in 2019, which had a significant effect on our overall financial performance in 2019
- Obtaining reimbursement for ORKAMBI and/or SYMDEKO/SYMKEVI for eligible patients in several important ex-U.S. markets, including England, France, Australia, Scotland, Wales, Northern Ireland and Spain, which made our medicines accessible to approximately 9,000 new patients worldwide
- Coordinating commercial manufacture of TRIKAFTA to allow a successful U.S. launch despite the challenges posed by the very early approval date

Amit Sachdev	2019 Rating:	Leading
EVP, Chief Patient Officer	2019 Salary:	\$ 540,750
	2019 Bonus:	\$ 823,292
	LTI Equity Grants (Feb 2020):	\$ 5,000,000

The MDCC recommended and the board adopted an overall rating of “leading” for Mr. Sachdev based on a results-based rating of “leading” and a values-based rating of “living the values” with an individual performance factor of 145%. Mr. Sachdev’s rating derived principally from his leadership of the regulatory and governmental affairs organizations with respect to the following:

- Building and leading the global regulatory group as they efficiently and successfully obtained multiple approvals for our medicines in U.S. and ex-U.S. markets, including:
 - the accelerated approval of TRIKAFTA for patients 12 years of age and older in the United States
 - the approval for KALYDECO in the United States and European Union for infants 6 to
 - the approval for SYMDEKO in the United States for children 6 to 11 years of age
- Building a new patient advocacy organization for CF and other Vertex disease areas
- Coordinating successful government affairs efforts in the US and Europe
- Assisting Dr. Leiden and Dr. Kewalramani in planning and executing the CEO transition

Paul M. Silva	2019 Rating:	Leading
SVP, Corporate Contoller	2019 Salary:	\$ 450,000
(Interim CFO for a Portion of 2019)	2019 Bonus:	\$ 378,000
	LTI Equity Grants (Feb 2020):	\$ 1,562,500

The MDCC recommended and the board adopted an overall rating of “leading” for Mr. Silva based on a results-based rating of “leading” and a values-based rating of “living the values” with an individual performance factor of 140%. Mr. Silva’s rating derived from his excellent performance leading the finance and accounting organizations through a transition period, while he served as our interim CFO, and for his continued leadership of our accounting, tax and treasury functions as our corporate controller for the balance of the year.

Former Executive Officer

Mr. Smith served as our Executive Vice President and Chief Operating Officer until January 23, 2019 and our interim Chief Financial Officer from December 13, 2018 through January 23, 2019. We terminated Mr. Smith’s employment in January 2019. Mr. Smith did not receive a bonus or an equity award in 2019.

Annual Cash Bonus

The cash bonus for each executive (referred to in the *Summary Compensation Table* on page 63 of this proxy statement as “Non-Equity Incentive Plan Compensation”) is calculated by multiplying the executive officer’s target bonus by both the company performance factor and the individual performance factor, in accordance with the following formula in 2019:

Base Salary	x	Target Cash Bonus	x	Performance Factors		=	Cash Bonus
		Individual Incentive Target (expressed as a percentage of base salary)		Company Performance Factor (expressed as a percentage of the target bonus)	Individual Performance Factor (expressed as a percentage of the target bonus)		Annual Cash Bonus Award
		40%- 120% based on role		0%- 150%			0-150%

The individual incentive targets were established, and are reviewed annually, by the MDCC based on available data about Peer Group company compensation. Dr. Leiden’s individual incentive target of 120% has remained unchanged since 2012. Dr. Kewalramani’s individual incentive target will be 120% for 2020. The individual incentive target for each of our executive vice presidents was increased from 50% to 70% during 2019. Dr. Leiden’s individual incentive target will be 100% for 2020 and he will not be eligible for a cash bonus for 2021 or 2022 performance. The resulting target annual bonuses approximate the median target annual bonuses for comparable executives at peer companies.

Company performance factors are determined annually and range from 0% to 150%. The possible individual ratings and corresponding individual performance factor ranges for our executive officers in 2019 are set forth in the table below:

Individual Rating	Individual Performance Factor
Not Building	0%
Building	50%-80%
Strong	80%-120%
Leading	120%-150%
Leading/Exemplary	140%-150%

On the basis of the factors described above, our independent directors approved, upon the MDCC’s recommendation, individual performance factors and annual bonus awards for each of the NEOs on account of 2019 performance, as set forth in the table below.

Name	2019 Base Salary	Individual Incentive Target		2019 Target Bonus	Company Performance Factor	Individual Performance Factor		2019 Performance Cash Bonus
Jeffrey M. Leiden	\$ 1,300,000	x 120%	=	\$ 1,560,000	x 150%	x 150%	=	\$ 3,510,000
Reshma Kewalramani	\$ 800,000	x 70%	=	\$ 560,000	x 150%	x 150%	=	\$ 1,260,000
Charles F. Wagner, Jr.	\$ 700,000	x 70%	=	\$ 490,000	x 150%	x 135%	=	\$ 992,250
Stuart A. Arbuckle	\$ 800,000	x 70%	=	\$ 560,000	x 150%	x 150%	=	\$ 1,260,000
Amit Sachdev	\$ 540,750	x 70%	=	\$ 378,525	x 150%	x 145%	=	\$ 823,292
Paul M. Silva	\$ 450,000	x 40%	=	\$ 180,000	x 150%	x 140%	=	\$ 378,000

Annual Equity Awards

Value-Based Guidelines for Annual NEO Equity Grants

Under our program, our NEOs were eligible for awards with the following target values based on 2019 performance:

	Not Building	Building	Strong	Leading	Leading Exemplary
CEO	\$ —	\$ 6,000,000	\$ 12,000,000	\$ 13,620,000	\$ 15,240,000
EVP	\$ —	\$ 2,000,000	\$ 4,000,000	\$ 5,000,000	\$ 6,000,000

During 2019, the MDCC did not change the target equity values for our CEO and increased by \$500,000 the target equity values for each of our executive vice presidents based on a market analysis. Mr. Silva’s target equity award for 2019 was \$1.25 million. The number of shares subject to the time-vested restricted stock units and performance stock units is based on the fair value of our common stock on the date of grant. Dr. Leiden’s new employment agreement, which was signed on March 31, 2020, provides for his receipt of equity grants of \$9,000,000 in the first quarter of 2021, \$8,500,000 in the first quarter of 2022 and \$6,500,000 in the first quarter of 2023 for his role as Executive Chairman.

February 2020 Grants Based on 2019 Performance

In February 2020, our independent directors approved, upon the MDCC's recommendation, individual performance factors and equity awards for 2019 performance for each of the NEOs, as set forth in the table below.

Name	Individual Performance Rating	Performance-Based RSU (50%)	Time-based RSU (50%)	Total Equity Value
Jeffrey M. Leiden	Leading Exemplary	\$ 7,620,000	\$ 7,620,000	\$15,240,000
Reshma Kewalramani	Leading Exemplary	\$ 3,000,000	\$ 3,000,000	\$ 6,000,000
Charles F. Wagner, Jr.	Leading	\$ 2,500,000	\$ 2,500,000	\$ 5,000,000
Stuart A. Arbuckle	Leading Exemplary	\$ 3,000,000	\$ 3,000,000	\$ 6,000,000
Amit Sachdev	Leading	\$ 2,500,000	\$ 2,500,000	\$ 5,000,000
Paul M. Silva	Leading	\$ 781,250	\$ 781,250	\$ 1,562,500

Performance Units Company Target and Results Table

We annually grant one-year financial-based performance restricted stock unit awards and three-year non-financial based restricted stock unit awards. We believe the combination of the one-year financial and three-year non-financial PSUs provides an appropriate balance of near- and long-term incentives for our management team. Our near-term objective of increasing the number of patients who benefit from our CF medicines in order to generate revenues complements our long-term strategic objectives, which require the reinvestment of these revenues into research and development in order to develop additional transformative medicines for serious diseases.

The final performance multipliers for our 2019 financial-based performance restricted stock unit awards were determined by the MDCC and applied to the target units granted to determine the actual units earned and eligible to vest with a payout of 200% in February 2020. The following chart shows the pre-established financial goals and the actual results for the financial-based performance restricted stock unit awards granted in 2019:

Award Year	Company Goal	Below	Threshold	Target	Max	Results	
		Threshold 0% Payout	50% Payout	100% Payout	200% Payout	CF Revenue	Payout
2019	2019 CF Net Product Revenues		\$ 3.36 billion	\$ 3.47 to \$3.51 billion	\$ 3.7 billion	\$ 4.0 billion	200.0%

Consistent with our philosophy of aligning compensation with performance in 2019, a year in which we substantially exceeded our CF net product revenue expectations and exceeded the high end of our CF net product revenues guidance by nearly \$500 million, the payout on our one-year financial PSU awards achieved the maximum level. The MDCC excluded approximately \$156 million in one-time net product revenues recognized in the fourth quarter of 2019 related to prior period shipments of ORKAMBI distributed through a French early access program from 2015 through 2019 from the 2019 CF net product revenues that were considered in connection with achieving the financial goals.

The performance goals for the 2017 non-financial based performance restricted stock unit awards were established in February 2017 and our performance against these goals was determined in the first quarter of 2020. There were three non-financial goals and achievement of one goal would have resulted in a 50% payout, achievement of two goals would have resulted in a 100% payout and achievement of three goals resulted in a payout of 200%.

Award Year	Company Goal	Results
2017	CF Portfolio Milestone - Approval in the United States of SYMDEKO	Achieved
	Next-Generation CFTR Corrector Milestone - Initiation of a Phase 3 Clinical Trial of a Triple Combination Regimen	Achieved
	Diversification Milestone - Initiation of first-in-human clinical trials for at least 2 new drug candidates (excluding CF drug candidates)	Achieved

The performance multiples for the 2018, 2019 and 2020 non-financial based performance restricted stock awards will be determined in the first quarter of 2021, 2022 and 2023, respectively, based on performance over the relevant three-year performance period. The non-financial goals contained in our three-year performance restricted stock unit awards for 2018, 2019 and 2020 are not disclosed for competitive reasons and because the relevant performance periods are ongoing.

Other Compensation Arrangements

Benefits

Our executives are eligible to participate in all of our benefit plans and programs on the terms made generally available to our employees, including medical insurance, dental insurance, payment of life insurance premiums, disability coverage, equity programs, including a career employment/retirement provision and participation in our employee stock purchase plan and eligibility for matching contributions, subject to an annual \$25,000 limit, to qualified charitable organizations pursuant to the Vertex Foundation Matching Gift Program. We have a defined contribution—a 401(k)—plan, in which our NEOs are eligible to participate. We make matching contributions to the 401(k) plan. The formula for determining the amount of our matching contributions is the same for our NEOs as for our other employees (and are subject to the same statutory maximum), but the actual contributions made to the accounts of our NEOs generally are at the top end of the range, due to the executives' higher salaries and correspondingly higher cash contribution levels. Other than the retirement provision under our equity program available to all employees, we do not provide any retirement benefits to our executive officers.

Employment Agreements and Post-Termination Compensation and Benefits

The initial compensation terms for newly hired members of our executive team are the result of negotiations between us, in consultation with the MDCC and our board of directors, and the executive being hired. In general, each newly hired executive team member enters into an employment agreement and a change of control agreement and is granted a restricted stock unit award and/or a stock option award, and in some cases a cash sign-on bonus, reimbursement of moving expenses, and other benefits. We also enter into employment and change of control agreements with executive vice presidents who are promoted to our executive team, on the basis of standard terms and conditions that have been recommended by our MDCC and approved by our board for such circumstances. We have entered into agreements providing for severance and change of control payments with each executive vice president on our executive team because we believe that they are a fair and effective way to allow our executives to maintain focus on our business in the face of market and other volatility in our industry.

In general, each employment arrangement provides for cash severance and continuation of certain employee benefits in the event that an executive's employment is terminated by us without cause or is terminated by the executive for good reason. We use a "double trigger" with respect to benefits that are to be provided in connection with a change of control. A change of control does not itself trigger benefits; rather, benefits are paid only if the employment of the executive is terminated by us other than for cause, death or disability, or by the executive for good reason, during a specified period before or after a change of control. We believe a "double trigger" benefit maximizes shareholder value because it prevents a windfall to executives in the event of a change of control in which the executive retains significant responsibility as defined in his or her individual agreement, while still providing our executives appropriate incentives to cooperate in negotiating any change of control that may put their jobs at risk.

We offer a company-wide program that provides for accelerated vesting of equity awards held by qualified retirement-eligible participants. Equity awards granted, including those granted to our NEOs, contain a retirement vesting provision, under which a "qualified" participant who experiences a termination of service other than for cause will receive accelerated vesting of an additional number of shares underlying the award, equal to the sum of (x) 50% plus 10% for each year of service in excess of five full years of service multiplied by (y) the number of unvested shares subject to the award. A "qualified" participant is a participant who is at least age 55 and has completed at least five full years of service or whose age plus full years of service is 65 or greater and who, has completed a mandatory transitional period of employment with the company following notice of his or her planned termination of service.

In addition to the benefits that only accrue in connection with a change of control, our agreements with our executive officers provide benefits if we terminate their employment with us without cause or they terminate their employment with us for good reason, as such terms are defined in the applicable agreement with the executive officer. A further discussion of the terms and projected payments under each our agreements with our named executive officers is set forth below under the heading *Employment Contracts and Change of Control Arrangements*.

Tax Considerations

We would like our compensation program to be reasonably cost and tax effective. To the extent consistent with our other goals, we seek to preserve corporate tax deductions, while maintaining the flexibility to approve compensation arrangements that we believe are in the best interests of the company and our shareholders. Following the introduction of U.S. tax reform, the performance-based exceptions and \$1 million salary threshold for covered executives under Section 162(m) have been repealed. We continue to grant performance-based compensation as important elements of our compensation program that align corporate shareholder and company interests, even though these awards may not result in full tax deductibility.

Compensation Practices

Equity Grant Practices

Our board of directors generally grants annual equity awards to named executive officers at a board meeting scheduled in advance for early February. Scheduling decisions are made without regard to anticipated earnings or other major announcements by the company.

Newly hired employees, including executive officers, are sometimes granted restricted stock units and/or options effective on the first day of employment, with the options having an exercise price set at the average of the high and low price for our common stock on the employment start date. The employees' start dates are scheduled without regard to anticipated earnings or other major announcements by the company.

The exercise price for each stock option awarded to our executive officers under our equity compensation program is equal to the fair market value of our common stock on the date of grant, which under our equity plans is the average of the high and low price for our common stock on the date of grant.

In the past, the MDCC has recommended that our board make an additional, off-cycle equity award to an executive officer or group of officers in order to achieve one or more of the objectives of our executive compensation program. Supplemental grants have been made on an ad hoc basis, when warranted in the judgment of the MDCC and our board. In 2019, our board granted a supplemental award to Paul Silva for the increased responsibilities related to his additional role of leading the global finance function and performing interim CFO responsibilities as well as to retain him during a critical period of leadership transition. Except for this grant to Mr. Silva, we did not make any supplemental grants of equity compensation in 2019.

Compensation Recoupment (“Clawback”) Policy

We have adopted a recoupment or clawback policy providing that, if our board of directors determines that an executive officer engaged in fraud or intentional misconduct that resulted in an incorrect determination that an incentive compensation performance goal had been achieved, the board may take appropriate action to recover from such executive officer any compensation that resulted from such determination. The board may require repayment for any bonus, equity or incentive compensation awarded to an executive officer who engaged in the fraud or intentional misconduct to the extent it was based on such incorrect determination.

Stock Ownership Guidelines

We have stock ownership guidelines for our chief executive officer and NEOs and guidelines for our non-employee directors, as discussed in *Non-Employee Director Stock Ownership Guidelines* on page 30 of this proxy statement. The guidelines for our CEO and Executive Vice Presidents are set forth in the following table:

Employee	Minimum Shareholding Requirement
Chief Executive Officer	6X base salary or 150,000 shares of our common stock
Executive Vice Presidents	4X base salary

Individual holdings, and holdings of immediate family members, of (a) common stock, (b) unvested restricted stock units and (c) shares held through our 401(k) plan count toward meeting these guidelines. As of March 31, 2020, our chief executive officer and our executive vice presidents satisfied the individual holding requirements.

Anti-Hedging and Pledging Policy

Our Insider Trading Policy prohibits all of our directors and employees, including our named executive officers, from (i) short selling or hedging our securities, (ii) purchasing or selling derivative securities based on our securities and (iii) pledging our securities.

Risk Mitigation

Our MDCC reviews the risks and rewards associated with our compensation programs. The programs are designed with features that mitigate risk without diminishing the incentive nature of the compensation. We believe our compensation programs encourage and reward prudent business judgment and appropriate risk-taking over the short term and the long term. Our MDCC regularly evaluates the risks involved with our compensation programs and does not believe that any of our compensation programs create risks that are reasonably likely to have a material adverse effect on our company.

Risk Mitigation Factors

We believe that our annual cash bonus and long-term equity compensation programs, which account for most of our executive officers' compensation, contain appropriate risk mitigation factors, as summarized below:

What We Do	What We Don't Do
Caps on awards	No executive perquisites
Multiple performance factors	No supplemental pension benefits for executives
Range of awards; not all or nothing	No single-trigger vesting in connection with a change-in-control for equity awards
Compensation recoupment (clawback) policy	No hedging or pledging or speculative transactions in our securities by directors and executive officers
Balance of short- and long-term incentives (through annual cash bonuses and equity awards)	No re-pricing of equity awards without shareholder approval
Executive and Non-Employee Director Stock Ownership Guidelines	No payment of dividends on unvested performance shares or units
Independent compensation consultant	No 280G gross-ups
Robust shareholder outreach	

Emphasis on Long-term Value Creation and Mitigation of Short-term Risk Taking

Our board believes that a key element of its risk oversight responsibilities is ensuring that our executive compensation program encourages implementation of our corporate strategy of investing in scientific innovation to create transformative medicines for people with serious disease and discourages decisions focused on creating short-term financial gains at the expense of long-term value creation. The board reviews our business performance, focusing on financial metrics and non-financial metrics, as well as other strategic factors including talent development and diversity to ensure our leaders are focusing on long-term growth in a manner aligned with our values.

Our MDCC reviews the performance of our executive officers using the above metrics. It also oversees the design of our executive compensation programs to ensure that our executive compensation program does not incentivize our executive officers, either individually or as a group, to make excessively risky business decisions that could maximize short-term results at the expense of long-term value. The independent Directors who serve on the MDCC are informed of our most significant risks, including those associated with research and development of new medicines, competition and the pricing of our medicines. Our MDCC, in consultation with its independent compensation consultant, ensures that our executive compensation programs are aligned with our long-term strategy and do not incentivize overly risky behavior.

MANAGEMENT DEVELOPMENT AND COMPENSATION COMMITTEE REPORT

The Management Development and Compensation Committee has reviewed the Compensation Discussion and Analysis and discussed that analysis with management. Based on its review and its discussions with management, the Management Development and Compensation Committee recommended to Vertex's Board of Directors that the Compensation Discussion and Analysis be included in Vertex's proxy statement for its 2020 annual meeting of shareholders and incorporated by reference into Vertex's Annual Report on Form 10-K for the year ended December 31, 2019. This report is provided by the following directors who comprise the Management Development and Compensation Committee:

Bruce I. Sachs (Chair)
Terrence C. Kearney
Yuchun Lee
William D. Young

COMPENSATION AND EQUITY TABLES

Summary Compensation Table

The following table provides summary information concerning compensation each of our NEOs for 2019, 2018 and 2017. Dr. Reshma Kewalramani became our CEO and President and Dr. Jeffrey M. Leiden transitioned from the role of Chief Executive Officer and President to the role of Executive Chairman in April 2020. Each of their principal positions during 2019 are set forth after their current principal positions in the table below.

Name and Principal Position	Year	Salary	Bonus	Stock Awards ⁽¹⁾	Option Awards ⁽¹⁾	Non-Equity Incentive Plan Compensation	All Other Compensation	Total
Jeffrey M. Leiden Executive Chairman (CEO and President through March 31, 2020)	2019	\$ 1,300,000	\$ —	\$ 9,334,681	\$ 4,572,039	\$ 3,510,000	\$ 73,265	\$ 18,789,985
	2018	\$ 1,300,000	\$ —	\$ 9,800,288	\$ 4,243,973	\$ 3,440,151	\$ 14,735	\$ 18,799,147
	2017	\$ 1,300,000	\$ —	\$ 8,750,114	\$ 3,700,877	\$ 3,463,200	\$ 13,110	\$ 17,227,301
Reshma Kewalramani CEO and President (EVP & Chief Medical Officer through March 31, 2020)	2019	\$ 702,308	\$ —	\$ 3,215,952	\$ 1,575,011	\$ 1,260,000	\$ 63,665	\$ 6,816,936
Charles F. Wagner, Jr. EVP & Chief Financial Officer	2019	\$ 492,692	\$ 140,000	\$ 1,225,383	\$ 600,039	\$ 992,250	\$ 36,849	\$ 3,487,213
Stuart A. Arbuckle EVP & Chief Commercial Officer	2019	\$ 770,962	\$ —	\$ 3,215,952	\$ 1,575,011	\$ 1,260,000	\$ 37,608	\$ 6,859,533
	2018	\$ 721,923	\$ —	\$ 2,625,244	\$ 1,136,785	\$ 824,175	\$ 38,965	\$ 5,347,092
	2017	\$ 700,000	\$ —	\$ 2,100,013	\$ 888,210	\$ 699,300	\$ 13,110	\$ 4,400,633
Amit Sachdev EVP & Chief Patient Officer	2019	\$ 540,750	\$ —	\$ 3,215,952	\$ 1,575,011	\$ 823,292	\$ 42,048	\$ 6,197,053
	2018	\$ 540,750	\$ —	\$ 3,150,448	\$ 1,364,130	\$ 602,261	\$ 20,672	\$ 5,678,261
	2017	\$ 540,750	\$ —	\$ 2,625,016	\$ 1,110,263	\$ 600,233	\$ 10,001	\$ 4,886,263
Paul M. Silva SVP & Corporate Controller (Interim CFO for a portion of 2019)	2019	\$ 442,569	\$ —	\$ 1,895,084	\$ 468,803	\$ 378,000	\$ 13,401	\$ 3,197,857
Ian F. Smith Former EVP & Chief Operating Officer and Former Interim Chief Financial Officer	2019	\$ 75,192	\$ —	\$ —	\$ —	\$ —	\$ 1,376,648	\$ 1,451,840
	2018	\$ 850,000	\$ —	\$ 2,625,244	\$ 1,136,785	\$ —	\$ 14,105	\$ 4,626,134
	2017	\$ 848,077	\$ —	\$ 2,625,016	\$ 1,110,263	\$ 1,339,770	\$ 13,110	\$ 5,936,236

(1) Pursuant to applicable SEC rules the grant-date fair values of the equity awards granted in February 2019 for 2018 performance are included in 2019 compensation. Equity awards granted in February 2020 to Dr. Leiden, Dr. Kewalramani, Mr. Wagner, Mr. Arbuckle, Mr. Sachdev and Mr. Silva for 2019 performance are not reflected in the Summary Compensation Table above and the value of those awards for our 2020 named executive officers will be reflected in the Summary Compensation Table for next year's proxy.

Bonus

Pursuant to applicable SEC rules, the annual cash bonuses earned by our named executive officers are set forth under the caption "Non-Equity Incentive Plan Compensation." Other bonuses, such as sign-on bonuses, are listed separately under the caption "Bonus."

Stock Awards and Options Awards

The amounts set forth under the captions "Stock Awards" and "Option Awards" in the table above represent the grant-date fair value of awards granted during the applicable fiscal year. Each year the equity awards reflected in the summary compensation table for a specific year reflect equity grants made early in that calendar year based on the executive's performance in the year prior to the year the equity grants are awarded. Because a majority of our executive's compensation is in the form of equity awards, the total compensation reflected in each executive's compensation for 2019 in the table above is significantly affected by his or her performance during 2018. Our methodology for determining the grant-date fair value, including underlying estimates and assumptions for calculating these values and specifically the estimates used to apply the Black-Scholes option pricing mode, is set forth in Note O to our consolidated financial statements included in our 2019 Annual Report on Form 10-K filed with the SEC on February 13, 2020.

The “Stock Awards” for 2019 consist of performance stock unit, or PSU, awards and time-vested restricted stock unit awards granted to Mr. Wagner as a sign-on award in April 2019 and to the other executive officers in February 2019. In 2019, the non-financial PSU awards had a grant-date fair value of 50% of the fair value of the target shares, in accordance with GAAP. If the grant-date fair value of the non-financial PSU awards had been 100% of the fair value of the target shares it would increase the amounts set forth in the table above by \$1.3 million for Dr. Leiden, \$459 thousand for each of Dr. Kewalramani, Mr. Arbuckle and Mr. Sachdev, \$175 thousand for Mr. Wagner and \$137 thousand for Mr. Silva. The “Stock Awards” for 2018 consist of PSU awards and time-vested restricted stock unit awards granted in February 2018. The “Stock Awards” for 2017 consist of PSU awards and time-vested restricted stock unit awards granted in February 2017.

Non-Equity Incentive Plan Compensation—Annual Cash Bonus

The amounts set forth under the caption “Non-Equity Incentive Plan Compensation” in the table above represent annual cash bonuses for 2019, 2018 and 2017 performance, each of which was paid in the first quarter of the subsequent year. The cash bonus awards to the named executive officers for 2019 performance were determined as follows:

Name	Base Salary		Individual Incentive Target	=	2019 Target Bonus	x	Company Performance Factor	x	Individual Performance Factor	=	2019 Performance Cash Bonus
Jeffrey M. Leiden	\$1,300,000	x	120%	=	\$ 1,560,000	x	150%	x	150%	=	\$ 3,510,000
Reshma Kewalramani	\$ 800,000	x	70%	=	\$ 560,000	x	150%	x	150%	=	\$ 1,260,000
Charles F. Wagner, Jr.	\$ 700,000	x	70%	=	\$ 490,000	x	150%	x	135%	=	\$ 992,250
Stuart A. Arbuckle	\$ 800,000	x	70%	=	\$ 560,000	x	150%	x	150%	=	\$ 1,260,000
Amit Sachdev	\$ 540,750	x	70%	=	\$ 378,525	x	150%	x	145%	=	\$ 823,292
Paul M. Silva	\$ 450,000	x	40%	=	\$ 180,000	x	150%	x	140%	=	\$ 378,000

All Other Compensation

The amounts set forth under the caption “All Other Compensation” in the table for 2019 consist of:

Name	401(k) Match	Life Insurance Premiums	Matching Gift Program	Severance Payment	Other	Total
Jeffrey M. Leiden	\$ 12,600	\$ 1,997	\$ 25,000	\$ —	\$ 33,668 ⁽¹⁾	\$ 73,265
Reshma Kewalramani	\$ 12,600	\$ 1,122	\$ 5,000	\$ —	\$ 44,943 ⁽²⁾	\$ 63,665
Charles F. Wagner, Jr.	\$ 10,662	\$ 863	\$ 23,500	\$ —	\$ 1,824 ⁽³⁾	\$ 36,849
Stuart A. Arbuckle	\$ 12,600	\$ 1,310	\$ 20,200	\$ —	\$ 3,498 ⁽³⁾	\$ 37,608
Amit Sachdev	\$ 12,600	\$ 1,048	\$ 25,000	\$ —	\$ 3,400 ⁽³⁾	\$ 42,048
Paul M. Silva	\$ 12,600	\$ 801	\$ —	\$ —	\$ —	\$ 13,401
Ian F. Smith	\$ 3,461	\$ 110	\$ —	\$ 1,373,077	\$ —	\$1,376,648

(1) Consists of reimbursement to Dr. Leiden of \$16,775 for legal fees in connection with his employment agreement and tax reimbursements.

(2) Consists of reimbursements to Dr. Kewalramani of \$23,044 for reimbursement for legal fees in connection with her employment agreement and tax reimbursements.

(3) Tax reimbursements.

Grants of Plan-Based Awards During 2019

The following table provides information with respect to grants of awards to each of our named executive officers during 2019. Pursuant to SEC rules, (i) the threshold, target and maximum amounts payable pursuant to our 2019 annual cash bonus program are set forth in columns under "Estimated Possible Payouts under Non-Equity Incentive Plan Awards", (ii) the threshold, target and maximum number of shares that could vest pursuant to PSUs granted in 2019 are set forth in columns under "Estimated Future Payouts under Equity Incentive Plan Awards", (iii) the number of shares granted pursuant to other restricted stock unit awards in 2019 is set forth under "All Other Stock Awards: Number of Shares of Stock or Units" and (iv) the number of shares subject to option awards granted in 2019 is set forth under "All Other Option Awards: Number of Securities Underlying Options".

Name	Grant Date	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards			Estimated Future Payouts Under Equity Incentive Plan Awards (shares)			All Other Stock Awards: Number of Shares of Stock or Units	All Other Option Awards: Number of Securities Underlying Options	Exercise or Base Price of Option Awards	Closing Price of Stock on Grant Date	Grant-Date Fair Value of Stock and Option Awards
		Threshold (\$)	Target (\$)	Maximum (\$)	Threshold (#)	Target (#)	Maximum (#)	(#)	(#)	(\$/Sh)	(\$/Sh)	(\$)
Jeffrey M. Leiden		\$ 0	\$ 1,560,000	\$ 3,510,000								
	2/6/2019				—	14,222	28,444					\$ 2,667,052
	2/6/2019				—	14,222	28,444					\$ 1,333,526
	2/6/2019							28,444				\$ 5,334,103
	2/6/2019								72,647	\$ 187.53	\$ 182.39	\$ 4,572,039
Reshma Kewalramani		\$ 0	\$ 560,000	\$ 1,260,000								
	2/6/2019				—	4,900	9,800					\$ 918,897
	2/6/2019				—	4,900	9,800					\$ 459,449
	2/6/2019							9,799				\$ 1,837,606
	2/6/2019								25,026	\$ 187.53	\$ 182.39	\$ 1,575,011
Charles F. Wagner, Jr.		\$ 0	\$ 490,000	\$ 1,102,500								
	4/10/2019				—	1,849	3,698					\$ 350,164
	4/10/2019				—	1,849	3,698					\$ 175,082
	4/10/2019							3,697				\$ 700,138
	4/10/2019								9,532	\$ 189.38	\$ 190.37	\$ 600,039
Stuart A. Arbuckle		\$ 0	\$ 560,000	\$ 1,260,000								
	2/6/2019				—	4,900	9,800					\$ 918,897
	2/6/2019				—	4,900	9,800					\$ 459,449
	2/6/2019							9,799				\$ 1,837,606
	2/6/2019								25,026	\$ 187.53	\$ 182.39	\$ 1,575,011
Amit Sachdev		\$ 0	\$ 378,525	\$ 851,681								
	2/6/2019				—	4,900	9,800					\$ 918,897
	2/6/2019				—	4,900	9,800					\$ 459,449
	2/6/2019							9,799				\$ 1,837,606
	2/6/2019								25,026	\$ 187.53	\$ 182.39	\$ 1,575,011
Paul M. Silva		\$ 0	\$ 180,000	\$ 405,000								
	2/6/2019				—	1,459	2,918					\$ 273,606
	2/6/2019				—	1,459	2,918					\$ 136,803
	2/6/2019							7,917				\$ 1,484,675
	2/6/2019								7,449	\$ 187.53	\$ 182.39	\$ 468,803

Annual Cash Bonus. The amounts in the “Estimated Possible Payouts Under Non-Equity Incentive Plan Awards” column represent the minimum threshold, target and maximum amounts that our named executive officers were eligible for pursuant to our 2019 annual cash bonus program. Actual amounts paid to each of the named executive officers under this program for 2019 performance are set forth in the *Summary Compensation Table* above.

PSU. The amounts in the “Estimated Future Payouts Under Equity Incentive Plan Awards” column represent the minimum threshold, target and maximum amounts that could vest pursuant to PSUs granted in 2019. Pursuant to GAAP, the grant date value of the financial PSU was based on 100% of the fair value of the target shares and the grant date value of the non-financial PSU awards was based on 50% of the fair value of the target shares in 2019. These awards vest if, and only if, performance objectives are achieved, as described in the footnotes to the table *Outstanding Equity Awards at Fiscal Year-End for 2019* below.

Time-Based Restricted Stock Units. The amounts in the “All Other Stock Awards: Number of Shares of Stock or Units” column represent the number of time-based restricted stock units, which vest annually over three years, granted to the named executive officers in 2019.

Options. In accordance with our stock and option plans, the exercise prices for the stock options granted to our named executive officers during 2019 were equal to the average of the high and the low prices of our common stock on the grant date. Each stock option set forth in the table above was granted subject to vesting in 16 quarterly installments during the first four years of its ten-year term.

Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table

Each NEO has entered into an employment agreement with the company, which provides the executives the right to participate in all of the company’s compensation and benefits plans and equity programs, as described in *Compensation Discussion & Analysis*.

Option Exercises and Stock Vested for 2019

The following table sets forth the value realized by our named executive officers from options to purchase common stock exercised by the named executive officers during 2019 and shares of stock that vested during 2019. The value realized per share for options is based on the difference between the exercise price and the fair market value of the shares of common stock on the date the options were exercised. The value realized on vesting of stock awards is based on the fair market value of the shares of common stock on the vesting date.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise	Value Realized on Exercise	Number of Shares Acquired on Vesting	Value Realized on Vesting
Jeffrey M. Leiden	532,500	\$47,520,184	164,678	\$30,172,926
Reshma Kewalramani	8,258	\$ 304,265	2,126	\$ 397,817
Charles F. Wagner, Jr.	—	\$ —	—	\$ —
Stuart A. Arbuckle	34,018	\$ 2,503,244	49,047	\$ 8,990,606
Amit Sachdev	31,388	\$ 3,371,816	50,469	\$ 9,235,012
Paul M. Silva	5,105	\$ 515,174	10,465	\$ 1,943,619
Ian F. Smith	67,124	\$ 5,010,157	66,355	\$12,497,697

Outstanding Equity Awards at Fiscal Year-End for 2019

The following table provides information with respect to outstanding equity awards held by each of our named executive officers on December 31, 2019, based on the closing price of \$218.95 per share of our common stock on December 31, 2019:

Name	Option Awards				Number of Shares or Units of Stock That Have Not Vested (Shares)	Market Value of Shares or Units of Stock That Have Not Vested	Stock Awards	
	Number of Securities Underlying Unexercised Options Exercisable (shares) ⁽¹⁾	Number of Securities Underlying Unexercised Options Unexercisable (shares) ⁽¹⁾	Option Exercise Price (per share)	Option Expiration Date			Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (shares)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested
Jeffrey M. Leiden	Time-based RSU				(2)			
					16,856	\$ 3,690,621		
					(3)			
					20,999	\$ 4,597,731		
					(4)			
					28,444	\$ 6,227,814		
	Performance-based RSU				(5)			
					16,856	\$ 3,690,621		
					(6)			
					21,000	\$ 4,597,950		
				(7)				
				25,283	\$ 5,535,713			
				(8)				
				14,222	\$ 3,113,907			
						(9)		
						15,749	\$ 3,448,244	
						(10)		
						14,222	\$ 3,113,907	
	Stock Options							
	71,190	32,360	\$ 86.52	2/2/2027				
	100,571	6,705	\$ 91.05	2/1/2026				
	106,500	0	\$ 96.87	7/14/2024				
	31,957	41,089	\$ 155.57	2/5/2028				
	13,621	59,026	\$ 187.53	2/5/2029				
Reshma Kewalramani	Time-based RSU				(11)			
					955	\$ 209,097		
					(4)			
					9,799	\$ 2,145,491		
	Performance-based RSU				(6)			
					2,344	\$ 513,219		
					(8)			
					4,900	\$ 1,072,855		
							(9)	
							1,758	\$ 384,914
						(10)		
						4,900	\$ 1,072,855	
	Stock Options							
	0	4,587	\$ 155.57	2/5/2028				
	0	20,334	\$ 187.53	2/5/2029				
Charles F. Wagner, Jr.	Time-based RSU				(4)			
					3,697	\$ 809,458		
	Performance-based RSU				(8)			
					1,849	\$ 404,839		
							(10)	
						1,849	\$ 404,839	
	Stock Options							
	1,191	8,341	\$ 189.38	4/9/2029				

Name	Option Awards				Number of Shares or Units of Stock That Have Not Vested (shares)	Stock Awards		
	Number of Securities Underlying Unexercised Options Exercisable (shares) ⁽¹⁾	Number of Securities Underlying Unexercised Options (shares) ⁽¹⁾	Option Exercise Price (per share)	Option Expiration Date		Market Value of Shares or Units of Stock That Have Not Vested	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (shares)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested
Stuart A. Arbuckle	Time-based RSU				(2)			
					4,046	\$ 885,872		
					(3)			
					5,625	\$ 1,231,594		
					(4)			
					9,799	\$ 2,145,491		
	Performance-based RSU				(5)			
					4,046	\$ 885,872		
					(6)			
					5,626	\$ 1,231,813		
					(7)			
					6,068	\$ 1,328,589		
					(8)			
					4,900	\$ 1,072,855		
						(9)		
						4,219	\$ 923,750	
						(10)		
						4,900	\$ 1,072,855	
	Stock Options							
	0	7,767	\$ 86.52	2/2/2027				
	0	2,156	\$ 91.05	2/1/2026				
	0	11,006	\$ 155.57	2/5/2028				
	4,692	20,334	\$ 187.53	2/5/2029				
Amit Sachdev	Time-based RSU				(2)			
					5,057	\$ 1,107,230		
					(3)			
					6,750	\$ 1,477,913		
					(4)			
					9,799	\$ 2,145,491		
	Performance-based RSU				(5)			
					5,058	\$ 1,107,449		
					(6)			
					6,752	\$ 1,478,350		
					(7)			
					7,585	\$ 1,660,736		
					(8)			
					4,900	\$ 1,072,855		
						(9)		
						5,063	\$ 1,108,544	
						(10)		
						4,900	\$ 1,072,855	
	Stock Options							
	0	9,708	\$ 86.52	2/2/2027				
	0	2,156	\$ 91.05	2/1/2026				
	42,500	0	\$ 109.14	2/2/2025				
	34,000	0	\$ 131.89	7/20/2025				
	10,272	13,207	\$ 155.57	2/5/2028				
	4,692	20,334	\$ 187.53	2/5/2029				

Name	Option Awards				Number of Shares or Units of Stock That Have Not Vested (shares)	Market Value of Shares or Units of Stock That Have Not Vested	Stock Awards	
	Number of Securities Underlying Unexercised Options Exercisable (shares) ⁽¹⁾	Number of Securities Underlying Unexercised Options (shares) ⁽¹⁾	Option Exercise Price (per share)	Option Expiration Date			Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (shares)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested
Paul M. Silva	Time-based RSU				(2)			
					2,107	\$ 461,328		
					2,813	\$ 615,906		
					2,917	\$ 638,677		
					5,000 ⁽¹²⁾	\$ 1,094,750		
	Performance-based RSU				(5)			
					2,108	\$ 461,547		
					2,814	\$ 616,125		
					3,160	\$ 691,882		
					1,459	\$ 319,448		
							2,110	\$ 461,985
							1,459	\$ 319,448
	Stock Options							
	2,427	4,045	\$ 86.52	2/2/2027				
	2,578	2,579	\$ 90.29	7/11/2026				
	3,867	1,290	\$ 91.05	2/1/2026				
	16,758	0	\$ 109.14	2/2/2025				
	13,750	0	\$ 131.89	7/20/2025				
	4,280	5,503	\$ 155.57	2/5/2028				
	1,396	6,053	\$ 187.53	2/5/2029				

- (1) Unvested stock options vest in 16 quarterly installments during the first four years of their ten-year terms. The option expiration dates listed above reflect the final expiration date for each of the listed options. If the named executive officer's service with us is terminated, the options would expire, subject to certain exceptions, 90 days after the termination of service.
- (2) These time-based restricted stock unit awards vest in three annual installments. The shares listed on the table above represent the third annual installment, which vested on February 10, 2020.
- (3) These time-based restricted stock unit awards vest in three annual installments. The shares listed on the table above represent the second and third annual installments, which vested on February 17, 2020 and were scheduled to vest February 17, 2021, respectively.
- (4) These time-based restricted stock unit awards vest in three annual installments. The shares listed on the table above represent the three annual installments, which vested on February 24, 2020, and were scheduled to vest in two remaining annual installments on February 24, 2021 and 2022.
- (5) This performance stock unit award was based on the achievement of one-year financial performance metrics tied to our net product revenue for medicines for the treatment of CF during 2017. In February 2018, our MDCC certified as to the level of performance at 200% of the number of target shares with the earned shares vesting in annual installments on February 10, 2018, 2019 and 2020. The shares listed on the table above represent the final installment of earned shares, which vested on February 10, 2020.
- (6) This performance stock unit award was based on the achievement of one-year financial performance metrics tied to our net product revenue for medicines for the treatment of CF during 2018, with vesting of the earned shares in three equal installments on each of February 17, 2019, 2020 and 2021. In February 2019, our MDCC certified as to the level of performance at 200% of the number of target shares. The shares listed on the table above represent the second and third installments of earned shares, which vested on February 17, 2020 and were scheduled to vest on February 17, 2021, respectively.
- (7) This performance stock unit award is based on the achievement of three-year non-financial performance metrics. The awards provide for multiple clinical and research milestones, with a payout range of zero to 200%. In February 2020, our MDCC certified as to the level of performance at 200% of the number of target shares. The earned shares vested on February 10, 2020.
- (8) This performance stock unit award was based on the achievement of one-year financial performance metrics tied to our net product revenue for medicines for the treatment of CF during 2019, with vesting of the earned shares in three equal installments scheduled for each of February 24, 2020, 2021 and 2022. In February 2020, our MDCC certified as to the level of performance at 200% of the number of target shares.
- (9) This performance stock unit award is based on the achievement of three-year non-financial performance metrics. The awards provide for multiple clinical and research milestones, with a payout range of zero to 200%. The specific clinical and research milestones are not disclosed for competitive reasons. Performance against these goals will be certified by our MDCC in early 2021.
- (10) This performance stock unit award is based on the achievement of three-year non-financial performance metrics. The awards provide for multiple clinical and research milestones, with a payout range of zero to 200%. The specific clinical and research milestones are not disclosed for competitive reasons. Performance against these goals will be certified by our MDCC in early 2022.
- (11) This time-based restricted stock unit award is an equity award granted to Dr. Kewalramani, which vested on February 17, 2020.
- (12) This time-based restricted stock unit award is a one-time equity award granted to Mr. Silva, which will vest on February 28, 2021.

SUMMARY OF TERMINATION AND CHANGE OF CONTROL BENEFITS

The amounts shown in the following table are calculated based on the amounts that would have been payable by us had the listed named executive officer experienced an employment termination on December 31, 2019.

	Voluntary Termination or Retirement/ Termination for Cause	Separate From a Change of Control Involuntary Termination Other Than for Cause/ Termination by Executive With Good Reason	In Connection With a Change of Control Involuntary Termination Other Than for Cause/ Termination by Executive for Good Reason	Disability	Death
Jeffrey M. Leiden					
Cash Severance Benefits	\$ —	\$ 26,860,000	\$ 26,860,000	\$ 1,560,000	\$ 1,560,000
Continuation of Employee Benefits	—	29,049	29,049	—	—
Accelerated Vesting of Stock Options	—	9,601,822	9,601,822	8,744,669	9,601,822
Accelerated Vesting of Restricted Stock Units	—	38,016,507	38,016,507	37,844,622	38,016,507
TOTAL	\$ —	\$ 74,507,378	\$ 74,507,378	\$ 48,149,291	\$ 49,178,329
Reshma Kewalramani					
Cash Severance Benefits	\$ —	\$ 3,040,000	\$ 3,040,000	\$ —	\$ —
Continuation of Employee Benefits	—	43,219	28,813	—	—
Accelerated Vesting of Stock Options	—	603,855	929,618	929,618	929,618
Accelerated Vesting of Restricted Stock Units	—	1,538,489	5,398,431	5,398,431	5,398,431
TOTAL	\$ —	\$ 5,225,563	\$ 9,396,862	\$ 6,328,049	\$ 6,328,049
Charles F. Wagner, Jr.					
Cash Severance Benefits	\$ —	\$ 1,190,000	\$ 1,680,000	\$ —	\$ —
Continuation of Employee Benefits	—	26,062	26,062	—	—
Accelerated Vesting of Stock Options	—	—	246,643	246,643	246,643
Accelerated Vesting of Restricted Stock Units	—	—	1,619,135	1,619,135	1,619,135
TOTAL	\$ —	\$ 1,216,062	\$ 3,571,840	\$ 1,865,778	\$ 1,865,778
Stuart A. Arbuckle					
Cash Severance Benefits	\$ —	\$ 1,360,000	\$ 1,920,000	\$ —	\$ —
Continuation of Employee Benefits	—	28,813	28,813	—	—
Accelerated Vesting of Stock Options	—	—	2,640,791	1,336,455	2,640,791
Accelerated Vesting of Restricted Stock Units	—	—	10,778,690	7,678,358	10,778,690
TOTAL	\$ —	\$ 1,388,813	\$ 15,368,294	\$ 9,014,813	\$ 13,419,481
Amit Sachdev					
Cash Severance Benefits	\$ —	\$ 919,275	\$ 1,297,800	\$ —	\$ —
Continuation of Employee Benefits	—	28,563	28,563	—	—
Accelerated Vesting of Stock Options	—	2,414,289	3,037,337	1,475,954	3,037,337
Accelerated Vesting of Restricted Stock Units	—	10,943,090	12,231,423	8,356,008	12,231,423
TOTAL	\$ —	\$ 14,305,217	\$ 16,595,123	\$ 9,831,962	\$ 15,268,760
Paul M. Silva					
Cash Severance Benefits	\$ —	\$ —	\$ 605,758	\$ —	\$ —
Continuation of Employee Benefits	—	—	28,813	—	—
Accelerated Vesting of Stock Options	—	—	1,571,450	538,965	1,571,450
Accelerated Vesting of Restricted Stock Units	—	—	5,681,096	4,066,339	5,681,096
TOTAL	\$ —	\$ —	\$ 7,887,117	\$ 4,605,304	\$ 7,252,546

The amounts in the table above do not include any life insurance payments or disability insurance payments that the executive or the executive's estate may receive under existing insurance policies. The assumptions underlying the calculations in the table include:

- The value of each share subject to an option to purchase common stock that would be accelerated or continue to vest in the circumstances described below under *Employment Contracts and Change of Control Arrangements* equals \$218.95 per share (the closing price on the last trading day of 2019), minus the exercise price per share.
- The value of each share of restricted stock unit that would be accelerated or continue to vest, in each case in the circumstances described below, equals \$218.95 per share (the closing price on the last trading day of 2019).
- Appropriate provision for the continuation of all then-outstanding options would be made in connection with a change of control.
- Our board of directors would elect not to pay a pro rata portion of an executive's target bonus for the year of termination in cases where the executive's employment is terminated voluntarily by the executive (for any reason, including retirement) or for cause, under our policy that cash bonuses are payable only to employees who are otherwise eligible and who remain employed by us on the date of bonus payment, typically in February of the next year.
- Our board of directors would have assigned the same 2019 individual and company performance ratings on December 31, 2019 as they assigned in the first quarter of 2020.
- Under his amended and restated employment agreement and equity agreements and consistent with a program applicable to all our employees, in March 2020, when he completed his service to us as Chief Executive Officer and President, Dr. Leiden received acceleration of his outstanding equity.

The actual amounts that the named executive officers could receive in the future as a result of a termination of employment would likely differ materially from the amounts set forth above as a result of, among other things, changes in our stock price, changes in the officers' base salary, target bonus amounts and actual bonus amounts, and the vesting and grants of additional equity awards.

EMPLOYMENT CONTRACTS AND CHANGE OF CONTROL ARRANGEMENTS

Executive Severance Arrangements

We have entered into agreements and maintain plans that require us to provide to our named executive officers cash compensation, benefits and/or acceleration of the vesting of equity awards in the event of termination of employment or service as a director under specified circumstances. In addition to the agreements described below, outstanding options granted under our stock and option plans provide that, in the event of certain changes of control, either appropriate provision for the continuation of all then-outstanding options must be made, or the vesting of those options will be accelerated and they will become fully exercisable immediately prior to such change of control. As described below, the benefits that are to be provided in connection with a change of control are subject to a “double trigger.” A change of control does not itself trigger benefits; rather, benefits are paid only if the employment of the executive is terminated by us other than for cause, death or disability or by the executive for good reason during a specified period before or after a change of control. The following descriptions are qualified in the entirety by the agreements with the named executive officers, which have been filed with the SEC.

In addition to the benefits described below, under programs applicable to all employees, if a named executive officer dies while an employee, his estate and/or beneficiaries would receive full acceleration of all outstanding equity awards, and if a named executive officer’s employment is terminated due to disability the executive officer would receive full acceleration of equity grants made since 2018. None of our current employment agreements provide for a so-called Section 4999 excise tax “gross-up,” and we have a policy against providing so-called Section 4999 excise tax “gross-up” in the future.

Agreement with Jeffrey M. Leiden

On April 1, 2020, we entered into a new employment agreement with Dr. Leiden in connection with his appointment as Executive Chairman. Dr. Leiden’s employment agreement has a three year term and provides for (i) a base salary and bonus in the first year, (ii) annual equity grants with declining values over the three year term and (iii) eligibility to receive the other benefits generally made available to our executives. In addition, Dr. Leiden has agreed not to engage in specified competitive activities for 18 months after his employment with us terminates.

If (a) Dr. Leiden’s employment is terminated by us without cause or (b) he terminates his employment for good reason, he would be entitled to receive, subject to limited exceptions: (i) any base salary or annual bonus amounts for the first year remaining unpaid, (ii) a cash payment equal to grant date value of any remaining annual equity awards he would have received following the termination date under his agreement and (iii) continuation of certain employee benefits for up to 18 months.

If Dr. Leiden’s employment is terminated as a result of death or disability, he would be entitled to receive any base salary or annual bonus amounts for the first year remaining unpaid and a cash payment equal to the grant date value of the next annual equity award he would have received on the grant date immediately following the date of his termination.

Our prior employment agreement with Dr. Leiden, expired in accordance with its terms on March 31, 2020. Consistent with a program applicable to all our employees, in March 2020, when he completed his service to us as Chief Executive Officer and President, Dr. Leiden received acceleration of his outstanding equity and extension of the expiry of his outstanding options.

Agreements with Reshma Kewalramani

Effective April 1, 2020, Dr. Kewalramani’s written employment agreement provides that she is entitled to receive compensation as determined by our board of directors and is eligible to receive the benefits generally made available to our executives. In addition, Dr. Kewalramani has agreed not to engage in specified competitive activities for 12 months after her employment with us terminates.

Under our arrangements with Dr. Kewalramani, since July 24, 2019, if (i) Dr. Kewalramani’s employment is terminated by us without cause or (ii) she terminates her employment for good reason, she would be entitled to receive, subject to limited exceptions:

Severance Payment:	A) 200% of the sum of her (i) base salary at the time of termination and (ii) target bonus for the year in which her employment is terminated B) Any annual bonus for the year prior to the year in which the termination occurs, if not yet paid C) A pro-rated bonus for the year in which the termination occurs based on her target bonus for the year in which the termination occurs
Equity:	Outstanding options and restricted stock units unvested on the termination date would receive partial vesting based on the portion of the award(s) that would have vested during the 12-month period following the termination date
Employee Benefits:	Continuation of certain employee benefits for up to 18 months

If (i) Dr. Kewalramani's employment is terminated by us without cause or (ii) she terminates her employment for good reason, in each case, within 90 days prior to or 12 months after a change of control of the company, she would instead be entitled to receive:

Severance Payment:	A) 299% of the sum of her (i) base salary at the time of termination and (ii) target bonus for the year in which her employment is terminated B) A pro-rated bonus for the year in which the termination occurs C) All cash incentive awards earned by Dr. Kewalramani, if not yet paid
Equity:	Full vesting of all outstanding options and restricted stock unit awards (using target or earned shares, as applicable, for performance-based awards)
Employee Benefits:	Continuation of certain employee benefits for up to 18 months

Severance payments to Dr. Kewalramani in connection with a change of control may be reduced to increase their value to Dr. Kewalramani if such payments would be subject to an excise tax under Section 4999 of the Code. Prior to Dr. Kewalramani's promotion to President and Chief Executive Officer, the terms and conditions of Dr. Kewalramani's change of control agreement was similar to the agreements with Mr. Arbuckle and Mr. Wagner.

If Dr. Kewalramani's employment is terminated as a result of death or disability, for equity awards not covered by the company-wide equity program described above, she would be entitled to receive:

- a pro-rated bonus for the year of employment termination;
- vesting of any options then unvested at the time of termination.

Agreements with Mr. Arbuckle and Mr. Wagner

Employment Agreements

The terms and conditions of Mr. Arbuckle's and Mr. Wagner's employment are governed by written employment contracts that were entered into at the time the respective officers joined our company. Each of these officer's employment agreement provides that he is entitled to receive compensation as determined by our board of directors and is eligible to receive the benefits generally made available to our executives. In addition, each officer has agreed not to engage in specified competitive activities for a period of one year after the termination of his employment with us.

Under each employment agreement, (i) if the officer's employment is terminated without cause or (ii) the officer terminates his employment with us for good reason within 30 days of the event giving rise to his right to terminate for good reason, subject to notice and cure provisions, he would be entitled to receive:

Severance Payment:	The sum of his (i) base salary at the time of termination and (ii) target bonus for the year in which his employment is terminated
Employee Benefits:	Continuation of certain employee benefits for up to 12 months

Change of Control Agreements

We have a change of control agreement with each of Mr. Arbuckle and Mr. Wagner that were entered into at the time the respective officer joined our company. Under this agreement and the executive's equity agreements, if we terminate the employment of the officer without cause on a date within the 90 days prior to or the 12 months after a change of control or any of these individuals terminates his employment within 30 days of an event giving rise to a right to terminate for good reason, subject to notice and cure provisions, and the event occurs on a date within the 90 days prior to or the 12 months after a change of control, he would be entitled to receive:

Severance Payment:	A) The sum of his (i) base salary at the time of termination and (ii) target bonus for the year in which his employment is terminated B) A pro rata portion of his target bonus for the year in which the termination occurs
Equity	Full vesting of all outstanding options and restricted stock unit awards (using target or earned shares, as applicable, for performance-based awards)
Employee Benefits:	Continuation of certain employee benefits for up to 12 months

Severance payments to the officer in connection with a change of control may be reduced to increase their value to the applicable officer if such payments would be subject to an excise tax under Section 4999 of the Code.

Amit Sachdev

Employment Agreement

The terms and conditions of Mr. Sachdev's employment are governed by a written employment contract, which was amended and restated in February 2013. His employment agreement provides that he is entitled to receive compensation as determined by our board of directors and is eligible to receive the benefits generally made available to our executives. In addition, Mr. Sachdev has agreed not to engage in specified competitive activities for a period of one year after the termination of his employment with us.

Under his employment agreement and equity agreements, if (i) Mr. Sachdev's employment is terminated without cause or (ii) he terminates his employment with us for good reason within 30 days of the event giving rise to his right to terminate for good reason, subject to notice and cure provisions, he would be entitled to receive:

Severance Payment:	The sum of his (i) base salary at the time of termination and (ii) target bonus for the year in which his employment is terminated
Options:	Vesting of outstanding options that otherwise would have vested in the 18 months following termination
Restricted Stock Units:	Vesting in full of each outstanding RSU award that would have otherwise vested in the 18 months following the termination (using target or earned shares, as applicable, for performance-based awards) or, in the case of certain performance-based RSU awards, vesting of target shares pro rata over time on a daily basis from the date of grant through the date that is 18 months following the termination
Employee Benefits:	Continuation of certain employee benefits for up to 12 months

Change of Control Agreement

We have a change of control agreement with Mr. Sachdev, which was amended and restated in February 2013. Under this agreement and his equity agreements, if we terminate Mr. Sachdev's employment without cause within the 90 days prior to or the 12 months after a change of control or he terminates his employment within 30 days of an event giving rise to a right to terminate for good reason, subject to notice and cure provisions, and the event occurs on a date within the 90 days prior to or the 12 months after a change of control, he would be entitled to receive:

Severance Payment:	A) The sum of his (i) base salary at the time of termination and (ii) target bonus for the year in which his employment is terminated B) A pro rata portion of his target bonus for the year in which the termination occurs
Options:	Full vesting of all outstanding options
Restricted Stock Units:	Vesting in full of all outstanding RSU awards (using target or earned shares, as applicable, for performance-based awards)
Employee Benefits:	Continuation of certain employee benefits for up to 12 months

Severance payments to Mr. Sachdev in connection with a change of control may be reduced to increase their value to Mr. Sachdev if such payments would be subject to an excise tax under Section 4999 of the Code.

Paul Silva

Mr. Silva, our Senior Vice President and Corporate Controller, was our Interim Chief Financial Officer for a portion of 2019. We have a change of control agreement with Mr. Silva, which was entered into in May 2012. If we terminate Mr. Silva's employment without cause on a date within the 90 days prior to or the 12 months after a change of control or Mr. Silva terminates his employment within 30 days of an event giving rise to a right to terminate for good reason, subject to notice and cure provisions, and the event occurs on a date within the 90 days prior to or the 12 months after a change of control, he would be entitled to (i) receive a severance payment equal to a portion of Mr. Silva's annual base salary and a portion of his corresponding target bonus, in each case, based on Mr. Silva's number of years of service to our company, and (ii) accelerated vesting of his outstanding options and outstanding RSU awards. Severance payments to Mr. Silva in connection with a change of control may be reduced to increase their value to Mr. Silva if such payments would be subject to an excise tax under Section 4999 of the Code.

Former Executive Officer

In January 2019, Mr. Smith's employment with us was terminated. Mr. Smith did not receive a cash bonus or any equity awards in 2019. Upon termination of his employment, Mr. Smith received the minimum amounts that were provided for pursuant to his employment contract: a severance payment for \$1.4 million, 18 months of acceleration of his outstanding equity and continuation of employee benefits for up to 12 months.

PAY RATIO

CEO Pay Ratio

The overall structure of our compensation and benefits programs are broadly similar across our organization, including a broad-based equity program pursuant to which all full-time employees receive equity, with differences reflecting the level of responsibility of the employees.

In 2019:

- **The ratio of total compensation for Dr. Leiden, our CEO in 2019, to our median employee's total compensation was 83:1.**
- Dr. Leiden's total compensation equaled \$18.8 million.
- The total annual compensation for Vertex's median employee, other than the CEO, equaled \$227,653.

Methodology

In 2019, we changed our methodology used to identify our median employee. Our practice for granting equity awards to employees recently changed from a share-based approach to a value-based approach. Given this change, we changed our methodology to identify our median employee using target total direct compensation. This measure of compensation for the median employee was consistently applied (converting all non-USD currencies into USD based on 12-month FX rates for the 12-month period ending October 1, 2019) and includes:

- Base salary
- Target cash bonus
- Target long-term equity awards

After identifying the median employee, we calculated the median employee's compensation using the same methodology used to calculate CEO compensation for the Summary Compensation Table.

Our methodology includes all 2,779 Company employees, as of October 1, 2019, and includes employees in 20 countries. Per the SEC rules, we excluded each of the 43 employees acquired through the Company's acquisition of Exonics Therapeutics, Inc. in 2019.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information regarding beneficial ownership of our common stock as of April 9, 2020, by:

- each shareholder known by us to be the beneficial owner of more than 5% of our common stock on that date;
- each of our directors and our director nominee;
- each named executive officer; and
- all directors and executive officers as a group.

Name and Address	Shares Beneficially Owned ⁽¹⁾	Percentage of Total ⁽²⁾
T. Rowe Price Associates, Inc. ⁽³⁾ 100 E. Pratt Street Baltimore, Maryland 21202	24,525,905	9.5%
FMR LLC ⁽⁴⁾ 245 Summer Street Boston, Massachusetts 02210	24,282,962	9.4%
BlackRock, Inc. ⁽⁵⁾ 55 East 52nd Street New York, New York 10055	21,116,821	8.1%
The Vanguard Group ⁽⁶⁾ 100 Vanguard Blvd. Malvern, Pennsylvania 19355	20,094,234	7.8%
Sangeeta N. Bhatia ⁽⁷⁾	17,823	*
Lloyd Carney ⁽⁷⁾	2,161	*
Alan Garber ⁽⁷⁾	15,190	*
Terrence C. Kearney ⁽⁷⁾	34,335	*
Reshma Kewalramani ⁽⁷⁾	17,303	*
Yuchun Lee ⁽⁷⁾	99,057	*
Jeffrey M. Leiden ⁽⁷⁾	515,950	*
Margaret G. McGlynn ⁽⁷⁾	50,130	*
Diana McKenzie	207	*
Bruce I. Sachs ⁽⁷⁾	135,565	*
William D. Young ⁽⁷⁾	44,908	*
Stuart A. Arbuckle ⁽⁷⁾	8,577	*
Amit Sachdev ⁽⁷⁾	109,314	*
Paul M. Silva ⁽⁷⁾	12,804	*
Charles F. Wagner, Jr. ⁽⁷⁾	4,403	*
Ian F. Smith	—	*
All directors and executive officers as a group (19 persons) ⁽⁷⁾	1,095,348	0.4%

* Less than 1%

- (1) Beneficial ownership of shares for purposes of this proxy statement is determined in accordance with applicable SEC rules and includes shares of common stock as to which a person has or shares voting power and/or investment power, including dispositive power. The persons and entities named in the table have sole voting and investment power with respect to all shares shown as beneficially owned by them, except as noted below. Information with respect to persons other than directors, director nominees and current executive officers is based solely upon the last information provided to us by a former executive officer in 2019 and upon Schedules 13G and amendments thereto filed with the SEC in the first quarter of 2020.
- (2) Percentage ownership is based on 259,172,149 shares of our common stock outstanding on April 9, 2020.
- (3) Reflects the securities beneficially owned by clients of one or more investment advisers directly or indirectly affiliated with T. Rowe Price Associates, Inc. T. Rowe Price Associates, Inc. has sole voting power with respect to 8,974,013 of the shares.
- (4) Reflects the securities beneficially owned, or that may be deemed to be beneficially owned, by FMR LLC, certain of its subsidiaries and affiliates, and other companies. FMR LLC has sole voting power with respect to 3,629,811 of the shares.
- (5) Reflects the securities beneficially owned by clients of one or more investment advisers directly or indirectly owned by BlackRock, Inc. BlackRock, Inc. has sole voting power with respect to 18,512,414 of the shares.
- (6) Includes 306,901 shares beneficially owned by Vanguard Fiduciary Trust Company and 224,931 shares held by Vanguard Investments Australia, Ltd., each of which are wholly-owned subsidiaries of The Vanguard Group, Inc. The Vanguard Group, Inc. has sole voting power with respect to 398,379 of the shares and sole dispositive power with respect to 19,649,326 of the shares.

- (7) Includes shares that may be acquired upon the exercise of options exercisable within 60 days after April 9, 2020, unvested shares of restricted stock as of April 9, 2020, unvested restricted stock units vesting within 60 days of April 9, 2020 and deferred stock units as of April 9, 2020 issued pursuant to our Non-Employee Director Deferred Compensation Plan, as follows:

	Stock Options Exercisable Within 60 Days of April 9, 2020	Unvested Restricted Units Vesting Within 60 Days of April 9, 2020	Deferred Stock Units as of April 9, 2020
Sangeeta N. Bhatia	12,574	2,381	—
Lloyd Carney	—	—	—
Alan Garber	10,549	1,741	—
Terrence C. Kearney	28,524	2,381	—
Reshma Kewalramani	2,074	—	—
Yuchun Lee	95,381	—	1,801
Jeffrey M. Leiden	463,019	—	—
Margaret G. McGlynn	42,256	—	3,989
Bruce I. Sachs	112,256	—	12,099
William D. Young	35,597	2,381	—
Stuart A. Arbuckle	4,339	—	—
Amit Sachdev	89,468	—	—
Paul M. Silva	7,635	—	—
Charles F. Wagner, Jr.	2,383	1,232	—
All directors and executive officers as a group (19 persons)	920,215	10,815	17,889

EQUITY COMPENSATION PLAN INFORMATION

As of March 31, 2020, there were 13,690,855 shares remaining available for award under our 2013 Plan. Under our 2013 Plan, all awards may be granted as full value awards but count as 1.66 shares for each full value share awarded.

As of March 31, 2020, under our equity plans:

- Stock options covering 5,519,426 shares of our common stock, with a weighted average exercise price of \$137.34 and a weighted average remaining term of 6.98 years, were outstanding; and
- Unvested restricted stock awards or units covering 3,786,322 shares of our common stock were outstanding.

The following table provides aggregate information with respect to all of our equity compensation plans in effect as of December 31, 2019. We are required under applicable SEC rules to disclose in this table the number of shares remaining available for issuance under our equity plans as of December 31, 2019. Accordingly, the figures in the table below do not reflect the equity grants made to our employees under our 2013 Stock and Option Plan, or 2013 Plan, since December 31, 2019.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Restricted Stock Units and Rights	Weighted-Average Exercise Price of Outstanding Options and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in first column)
Equity Compensation Plans Approved by Shareholders ⁽¹⁾	10,137,060 ⁽²⁾	134.92 ⁽³⁾	17,978,079 ⁽⁴⁾
Equity Compensation Plans Not Approved by Shareholders	—	—	—
TOTAL	10,137,060		17,978,079

(1) These plans consist of our 2013 Plan, our 2006 Stock and Option Plan ("2006 Plan") and our Employee Stock Purchase Plan. No further shares of common stock will be issued or distributed under the 2006 Stock and Option Plan.

(2) Represents the number of underlying shares of common stock associated with outstanding options, restricted stock units, performance stock units, and deferred stock units granted under stockholder approved plans, as of December 31, 2019, and includes 5,620,585 options granted under the 2013 Plan, 3,112,924 restricted stock units granted under the 2013 Plan, 734,020 PSUs (assuming the maximum number of PSUs will be earned) granted under the 2013 Plan, 17,689 deferred stock units attributable to compensation deferred by non-employee directors participating in the Director Plan and distributable in the form of shares of common stock under the 2013 Plan (and which are treated as outstanding "stock rights" under the 2013 Plan), 651,842 options granted under the 2006 Plan. Does not include 92,050 shares of restricted stock outstanding as of December 31, 2019.

(3) Represents the weighted-average exercise price of options outstanding under the 2013 Plan and 2006 Plan. See note (2) above with respect to restricted stock units, PSUs and deferred stock units (credited under the Director Plan) outstanding under the 2013 Plan. The weighted-average exercise price does not take these awards into account.

(4) Represents the number of shares available for future issuance under stockholder approved equity compensation plans and is comprised of 15,778,703 shares available for future issuance under the 2013 Plan and 2,199,376 shares available for future issuance under the Employee Stock Purchase Plan, including shares to be purchased at the end of the current offering period ending May 15, 2020.

OTHER INFORMATION

Other Matters

The 2020 annual meeting of shareholders is called for the purposes set forth in the notice. Our board of directors does not know of any other matters to be considered by the shareholders at the 2020 annual meeting other than the matters described in this proxy statement. However, the enclosed proxy confers discretionary authority on the persons named in the proxy card with respect to matters that may properly come before the annual meeting and that are not known to our board at the date this proxy statement was printed. It is the intention of the persons named in the proxy card to vote in accordance with their best judgment on any such matter.

Shareholder Proposals for the 2021 Annual Meeting and Nominations for Director

In order to be considered for inclusion in the proxy statement for our 2021 annual meeting of shareholders, shareholder proposals must be received by us no later than December 29, 2020. If we do not receive notice of a matter to be considered for presentation at the 2021 annual meeting of shareholders by March 14, 2021, our proxy holders will have the right to exercise discretionary voting authority with respect to the proposal without including information regarding the proposal in our proxy materials. Proposals should be sent to the attention of our corporate secretary at our offices at 50 Northern Avenue, Boston, Massachusetts 02210.

If a shareholder wishes to nominate a candidate for election to our board of directors at the 2021 annual meeting of shareholders, but is not eligible or does not elect to have such candidate included in the proxy statement for our 2021 annual meeting of shareholders, such nomination may be submitted to our corporate secretary no later than March 5, 2021, and must include:

- the name and address of the shareholder who intends to make the nomination and of the person or persons to be nominated;
- a representation that the shareholder is a holder of record of our stock entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice;
- a description of all arrangements or understandings between the shareholder and each nominee and any other person or persons (naming such person or persons) pursuant to which the nomination or nominations are to be made by the shareholder;
- the other information regarding each nominee proposed by the shareholder that would be required to be included in a proxy statement filed pursuant to the proxy rules of the SEC; and
- the consent of each nominee to serve on our board of directors if so elected.

If a shareholder wishes to nominate a candidate for election to our board at the 2021 annual meeting of shareholders, and is eligible and elects to have such candidate included in the proxy statement for our 2021 annual meeting of shareholders pursuant to our proxy access by-law, such nomination must be submitted to our corporate secretary no later than March 5, 2021 and must include, in addition to the information set forth above for other shareholder nominees, the information set forth in Section 8(e) of Article II of our by-laws.

Shareholder Communications to the Board

Generally, shareholders who have questions or concerns should contact our investor relations department at (617) 341-6100. However, any shareholder who wishes to address questions regarding our business directly with our board of directors, or any individual director, should direct his or her questions, in writing, in care of our corporate secretary, to our offices at 50 Northern Avenue, Boston, Massachusetts 02210. Under procedures approved by our board, including a majority of our independent directors, all substantive communications shall be reviewed by our corporate secretary and forwarded or reported to the chair of the CGNC, the independent directors and/or our full board, as deemed appropriate, with the exception of those communications relating to ordinary or routine business affairs, personal grievances or matters as to which we tend to receive repetitive or duplicative communications.

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of “householding” proxy materials. This means that only one copy of our Notice of Internet Availability of Proxy Materials or proxy statement and Annual Report may have been sent to multiple shareholders in your household. We will promptly deliver a separate copy of these documents to you if you write or call our corporate secretary at the following address or phone number: 50 Northern Avenue, Boston, Massachusetts 02210, telephone (617) 341-6100. If you want to receive separate copies of the proxy materials in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address and phone number.

Solicitation

We will bear the cost of soliciting proxies, including expenses in connection with preparing this proxy statement and hosting the virtual annual meeting. We have retained Morrow Sodali to assist in the solicitation of proxies at an estimated cost of approximately \$20,000. Proxies also may be solicited by our directors and employees by mail, by telephone, in person or otherwise. Employees will not receive additional compensation for solicitation efforts. In addition, we will request banks, brokers and other custodians, nominees and fiduciaries to forward proxy material to the beneficial owners of common stock and to obtain voting instructions from the beneficial owners. We will reimburse those firms for their reasonable expenses in forwarding proxy materials and obtaining voting instructions.

Forward Looking Statements

This proxy statement contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, including, without limitation, statements regarding our medicines, statements with respect to potential regulatory approval of our drug candidates and expected clinical development plans and timing, as well as statements with respect to Vertex's potential future financial performance. While we believe the forward-looking statements contained in this proxy statement are accurate, these forward-looking statements represent our beliefs only as of the date of this proxy statement and there are a number of factors that could cause actual events or results to differ materially from those indicated by such forward-looking statements, including risks listed under Risk Factors in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 and available through the company's website at www.vrtx.com. We disclaim any obligation to update the information contained in this proxy statement as new information becomes available.

FREQUENTLY ASKED QUESTIONS REGARDING THE ANNUAL MEETING

What is the Purpose of the Annual Meeting?

At the annual meeting, shareholders will act upon the matters outlined in the Notice of Annual Meeting of Shareholders. These include:

- The election of directors;
- The ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm;
- An advisory vote on our 2019 named executive officer compensation; and
- A shareholder proposal requesting that we prepare a report on our policies and activities with respect to lobbying, if properly presented at the meeting.

Management, members of our board and representatives of Ernst & Young LLP are expected to attend the annual meeting and be available to respond to questions from shareholders.

What is a Proxy?

It is your legal designation of another person to vote the stock you own in the manner you direct. That other person is called a proxy. If you designate someone as your proxy in a written document, that document also is called a proxy or a proxy card. The board of directors has designated Jeffrey M. Leiden, Reshma Kewalramani, Michael Parini and Sabrina Yohai to serve as proxies at the annual meeting.

What is a Proxy Statement?

It is a document that provides certain information about a company and matters to be voted upon at a meeting of shareholders. The rules of the SEC and other applicable laws require us to give you, as a shareholder, the information in this proxy statement and our Annual Report when we are soliciting your vote.

Why did I receive a “Notice of Internet Availability of Proxy Materials” but no proxy materials?

We are distributing our proxy materials to shareholders via the Internet under the “Notice and Access” approach permitted by rules of the Securities and Exchange Commission. This approach provides a timely and convenient method of accessing the materials and voting. On or about April 28, 2020, we will begin mailing a “Notice of Internet Availability of Proxy Materials” to shareholders. This notice includes instructions on how to access our notice of annual meeting of shareholders, this proxy statement and our Annual Report on Form 10-K for the year ended December 31, 2019 and how to vote your shares. The Notice of Internet Availability of Proxy Materials also contains instructions on how to receive a paper copy of the proxy materials and our Annual Report, if you prefer.

What is the Difference between a Shareholder of Record and a Shareholder Who Holds Stock in Street Name?

Shareholders of Record. If your shares are registered in your name with our transfer agent, Computershare, you are a shareholder of record with respect to those shares, and the Notice of Internet Availability of Proxy Materials was sent directly to you by Computershare.

Street Name Holders. If you hold your shares in an account at a bank or broker, then you are the beneficial owner of shares held in “street name.” The Notice of Internet Availability of Proxy Materials was forwarded to you by your bank or broker. As a beneficial owner, you have the right to direct your bank or broker how to vote the shares held in your account.

How May I Attend the Annual Meeting?

In light of the public health and travel safety concerns related to the ongoing spread of the coronavirus (COVID-19), we have decided to hold a virtual meeting. The virtual meeting will facilitate shareholder attendance and participation by enabling shareholders to participate from any location and at no cost. Visit www.meetingcenter.io/207970612 to attend the meeting. The password for the meeting is VRTX2020.

To attend the virtual meeting, shareholders of record will not need to register in advance but will need the control number included on their Notice of Internet Availability of Proxy Materials or proxy card. Shareholders whose shares are held in street name may attend the annual meeting by registering and obtaining a control number in advance using the instructions below under the heading "How do I Register to Attend the Virtual Annual Meeting on the Internet". The control number will be required to attend the virtual annual meeting. The meeting webcast will begin promptly at 9:30 a.m. (Eastern Time). We encourage you to access the meeting prior to the start time. You should allow for ample time for the check-in procedures.

To enable a virtual annual meeting, our board amended our by-laws on April 28, 2020 to permit the holding of a virtual annual meeting on an online platform.

How do I Register to Attend the Virtual Annual Meeting on the Internet?

If you are a shareholder of record (i.e., you hold your shares through our transfer agent, Computershare), you do not need to register in advance to attend the virtual annual meeting on the Internet. Please follow the instructions on the Notice of Internet Availability of Proxy Materials or the proxy card that you received.

If you hold your shares through an intermediary, such as a bank or broker, you must register and obtain a control number in advance to attend the virtual annual meeting on the Internet. To register to attend the virtual annual meeting you will need to obtain a legal proxy from your bank, broker or other nominee. Once you have received a legal proxy from them, you must forward the email from your broker and attach an image of your legal proxy to legalproxy@computershare.com reflecting your ownership of Vertex common stock along with your name and email address. Requests for registration must be labeled as "Legal Proxy" and be received no later than 5:00 p.m., Eastern Time, on May 29, 2020. After Computershare receives your registration materials, you will receive a confirmation email from Computershare of your registration and control number.

How Many Shares Must be Represented in Order to Hold the Annual Meeting?

In order for us to conduct the annual meeting, holders of a majority of the shares entitled to vote as of the close of business on the record date must be present in person or by proxy. This constitutes a quorum. Shares present virtually during the annual meeting will be considered shares of common stock represented in person at the meeting. If you are a shareholder of record, your shares are counted as present if you properly vote by Internet, telephone, return a proxy card by mail or if you attend the annual meeting online and vote during the meeting. If you are the beneficial owner of shares held in "street name," you must follow the instructions of your bank or broker in order to direct them how to vote the shares held in your account or obtain a legal proxy to vote online at the annual meeting. Abstentions and broker non-votes will be counted as present for purposes of establishing a quorum. If a quorum is not present, we will adjourn the annual meeting until a quorum is obtained.

How Can I Vote My Shares?

If you are a shareholder whose shares are registered in your name, you may vote your shares by one of the following methods:

1. **Vote by Internet** by going to the web address www.envisionreports.com/VRTX before the annual meeting and following the instructions for Internet voting on the Notice of Internet Availability or proxy card. Have the Notice of Internet Availability of Proxy Materials, which contains your control number, available when voting by Internet.
2. **Vote by proxy card**, if you have received written proxy materials, by completing, signing, dating, and mailing your proxy card in the envelope provided. **If you vote by Internet, please do not mail your proxy card.**
3. **Vote by telephone** by following the instructions on the Notice of Internet Availability of Proxy Materials or proxy card.
4. **By attending the annual meeting online.** During the annual meeting, you may vote online by following the instructions at www.meetingcenter.io/207970612. Have the Notice of Internet Availability of Proxy Materials, which contains your control number, available when you access the virtual meeting webpage.

If you are a street name holder, your broker or other nominee will provide you with a form seeking instruction on how your shares should be voted.

What is the Record Date and What Does it Mean?

The record date for the annual meeting is April 9, 2020 and was established by our board of directors. On the record date, there were 259,172,149 shares of our common stock outstanding, each of which is entitled to one vote on each matter properly brought before the annual meeting. Owners of record of common stock at the close of business on the record date are entitled to:

- receive notice of the annual meeting; and
- vote at the annual meeting and any adjournment or postponement of the annual meeting.

If I Submit a Proxy, May I Later Revoke it and/or Change my Vote?

Shareholders may revoke a proxy and/or change their vote prior to the completion of voting at the annual meeting by:

- subsequently submitting a vote by Internet at www.envisionreports.com/VRTX or by telephone by following the directions on the Notice of Internet Availability of Proxy Materials, voting instruction form or your proxy card;
- signing another proxy card with a later date and delivering it to our corporate secretary at 50 Northern Avenue, Boston, Massachusetts 02210, before the annual meeting; or
- voting at the annual meeting online, if you are a shareholder of record or hold your shares in street name and have obtained a legal proxy from your bank or broker.

What if I do not Specify a Choice for a Matter when Returning a Proxy?

Shareholders should specify their choice for each matter following the directions described on their Notice of Internet Availability of Proxy Materials. If no specific instructions are given, proxies that are signed and returned will be voted:

- FOR the election of all director nominees;
- FOR ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm for the year ending December 31, 2020;
- FOR our 2019 named executive officer compensation; and
- AGAINST the shareholder proposal requesting that we prepare a report on our policies and activities with respect to lobbying.

Are My Shares Voted if I do not Provide a Proxy?

If you are a shareholder of record and do not provide a proxy, you must attend the annual meeting in order to vote. If you hold shares through an account with a bank or broker, your shares may be voted by the bank or broker if you do not provide voting instructions. Banks and brokers have the authority under applicable rules to vote shares on routine matters for which their customers do not provide voting instructions. The ratification of Ernst & Young LLP as our independent registered public accounting firm is considered a routine matter. Each of the other proposals, including the election of directors, the advisory vote with respect to our executive compensation program and the shareholder proposal is not considered routine, and banks and brokers cannot vote shares without instruction on those matters. Shares that banks and brokers are not authorized to vote on those matters are counted as "broker non-votes" and will have no effect on the results of those votes.

What Vote is Required to Approve Each Proposal and How are Votes Counted?

Proposal No. 1: Election of Directors

To be elected, the number of votes cast "FOR" each director nominee must exceed the number of votes cast "AGAINST" that nominee. Abstentions will have no effect on the results of this vote. Our Corporate Governance Principles contain procedures to be followed in the event that one or more directors do not receive a majority of the votes cast "FOR" his or her election.

Proposal No. 2: Ratification of the Appointment of Independent Registered Public Accounting Firm

To be approved, this proposal must receive an affirmative vote from shareholders present in person or represented by proxy at the annual meeting representing a majority of the votes cast on the proposal. Abstentions will have no effect on the results of this vote.

Proposal No. 3: Advisory Vote to Approve Named Executive Officer Compensation

To be approved, this proposal must receive an affirmative vote from shareholders present in person or represented by proxy at the annual meeting representing a majority of the votes cast on the proposal. Abstentions will have no effect on the results of this vote.

Proposal No. 4: Shareholder Proposal Requesting that We Prepare a Report on our Policies and Activities With Respect to Lobbying

To be approved, this proposal must receive an affirmative vote from shareholders present in person or represented by proxy at the annual meeting representing a majority of the votes cast on the proposal. Abstentions will have no effect on the results of this vote.

Where Can I Find More Information About My Voting Rights as a Shareholder?

The SEC has an informational website that provides shareholders with general information about how to cast their vote and why voting should be an important consideration for shareholders. You may access that website at sec.gov/spotlight/proxymatters.shtml.

APPENDIX A Non-GAAP Financial Measures

In this proxy, our financial results are provided in accordance with accounting principles generally accepted in the United States (GAAP) and using certain non-GAAP financial measures. In particular, we include non-GAAP net income, which excludes (i) stock-based compensation expense, (ii) an adjustment to revenues and related cost of sales to reflect the conclusion of our early access program for ORKAMBI in France, (iii) revenues and expenses related to business development transactions including collaboration agreements, asset acquisitions and consolidated variable interest entities, (iv) gains or losses related to the fair value of our strategic investments, (v) acquisition-related costs and (vi) other adjustments. Our non-GAAP financial results also exclude from our provision for or benefit from income taxes the estimated tax impact related to our non-GAAP adjustments to pre-tax income described above. These results are provided as a complement to results provided in accordance with GAAP because management believes these non-GAAP financial measures help indicate underlying trends in our business, are important in comparing current results with prior period results and provide additional information regarding our financial position. Management also uses these non-GAAP financial measures to establish budgets and operational goals that are communicated internally and externally and to manage our business and to evaluate our performance. We adjust, where appropriate, for both revenues and expenses in order to reflect our operations. A reconciliation of GAAP net income to non-GAAP net income is included below.

	2019	2018	2017
	(in thousands)		
GAAP net income attributable to Vertex	\$ 1,176,810	\$ 2,096,896	\$ 263,484
Stock-based compensation expense	360,489	325,047	290,736
ORKAMBI adjustment	(140,854)	—	—
Increase in fair value of strategic investments	(197,596)	(2,558)	—
Increase (decrease) in fair value of contingent consideration	4,459	17,730	(62,560)
Collaborative revenues and expenses	318,343	116,717	(14,047)
Acquisition-related costs and other adjustments	45,871	4,563	16,947
Total non-GAAP adjustments to pre-tax income	390,712	461,499	231,076
Estimated income taxes related to non-GAAP adjustments to pre-tax income	(178,578)	—	—
Benefit from income taxes due to release of valuation allowance	—	(1,499,588)	—
NON-GAAP NET INCOME ATTRIBUTABLE TO VERTEX	\$ 1,388,944	\$ 1,058,807	\$ 494,560

This page intentionally left blank





Your vote matters – here's how to vote!

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

Online

Go to www.envisionreports.com/VRTX 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.envisionreports.com/VRTX

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



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 recommends a vote FOR each Director Nominee in proposal 1 and FOR proposals 2 and 3, and AGAINST proposal 4.

1. Election of Directors:

	For	Against	Abstain		For	Against	Abstain		For	Against	Abstain
01 - Sangeeta Bhatia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	02 - Lloyd Carney	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03 - Alan Garber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04 - Terrence Kearney	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	05 - Reshma Kewalramani	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06 - Yuchun Lee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
07 - Jeffrey Leiden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08 - Margaret McGlynn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	09 - Diana McKenzie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 - Bruce Sachs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								

2. Ratification of Ernst & Young LLP as our independent Registered Public Accounting firm for the year ending December 31, 2020. For Against Abstain
3. Advisory vote on named executive officer compensation. For Against Abstain
4. Shareholder proposal, if properly presented at the meeting, requesting that we prepare a report on our policies and activities with respect to lobbying. For Against Abstain



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

Please sign name exactly as name appears. When signing in a fiduciary capacity, please give full title. Co-fiduciaries and joint owners should each sign.

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 P C F





The 2020 Annual Meeting of Shareholders of Vertex Pharmaceuticals Incorporated will be held on June 3, 2020, at 9:30 a.m. Eastern Time virtually via the internet at www.meetingcenter.io/207970612.

To access the virtual meeting, you will need the 15-digit control number that is printed in the shaded bar located on the reverse side of this form.

The password for this meeting is VRTX2020.

Important Notice Regarding the Availability of Proxy Materials for the Shareholder Meeting to be held on June 3, 2020: The Notice of Annual Meeting of Shareholders, Proxy Statement and Annual Report are available at <http://www.envisionreports.com/vrtx>

	<p>Small steps make an impact.</p> <p>Help the environment by consenting to receive electronic delivery, sign up at www.envisionreports.com/VRTX</p>	
---	--	---

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



Proxy – Vertex Pharmaceuticals Incorporated

ANNUAL MEETING OF SHAREHOLDERS – June 3, 2020

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The undersigned does hereby constitute and appoint Jeffrey Leiden, Reshma Kewalramani, Michael Parini and Sabrina Yohai, and each of them, the attorney(s) and proxy of the undersigned, with full power of substitution, with all the powers that the undersigned would possess if personally present, to vote all stock of Vertex Pharmaceuticals Incorporated that the undersigned is entitled to vote at the Annual Meeting of Shareholders of Vertex Pharmaceuticals Incorporated to be held on Wednesday, June 3, 2020 at 9:30 A.M., via live audio webcast available at www.meetingcenter.io/207970612 and at any postponement or adjournment thereof, and hereby acknowledges receipt of the proxy statement for such meeting and revokes all previous proxies.

This proxy, when properly executed, will be voted as directed. If no direction is made, this proxy will be voted FOR each of the nominees in proposal 1 and FOR proposals 2 and 3, and AGAINST proposal 4 and, in the case of other matters that legally come before the meeting or any postponement or adjournment thereof, as said proxies may deem advisable.

Please vote, sign and date on the reverse side and return this proxy card promptly.

C Non-Voting Items

Change of Address – Please print new address below.

Comments – Please print your comments below.

Meeting Attendance
Mark box to the right if you plan to attend the Annual Meeting.

