BIOCRYST PHARMACEUTICALS INC
Form 10-K
March 12, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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Form 10-K

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ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2017

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the transition period from to .

Commission File Number 000-23186

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BIOCRYST PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

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DELAWARE	**62-1413174**
(State of other jurisdiction of incorporation or organization)	**(I.R.S. employer identification no.)**

4505 Emperor Blvd., Suite 200, Durham, North Carolina 27703

(Address of principal executive offices)

(919) 859-1302

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $.01 Par Value	**The NASDAQ Global Select Market**

Securities registered pursuant to Section 12(g) of the Act:

Title of class

None

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Indicate by a check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by a check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by a check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (Section 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

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

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

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

The Registrant estimates that the aggregate market value of the Common Stock on June 30, 2017 (based upon the closing price shown on the NASDAQ Global Select Market on June 30, 2017) held by non-affiliates was $440,626,219.

The number of shares of Common Stock, par value $.01, of the Registrant outstanding as of January 31, 2018 was 98,606,110 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive Proxy Statement to be filed in connection with the solicitation of proxies for its 2018 Annual Meeting of Stockholders are incorporated by reference into Items 10, 11, 12, 13 and 14 under Part III hereof or, in the event the Registrant does not prepare and file such Proxy Statement, such information shall be filed

as an amendment to this Form 10-K.

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PART I

ITEM 1. ***BUSINESS***

Forward-Looking Statements

This report includes forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the “safe harbor” created in Section 21E. In particular, statements about our expectations, beliefs, plans, objectives or assumptions of future events or performance are contained or incorporated by reference in this report. All statements other than statements of historical facts contained herein are forward-looking statements. We have based these forward-looking statements on our current expectations about future events. While we believe these expectations are reasonable, forward-looking statements are inherently subject to risks and uncertainties, many of which are beyond our control. Our actual results may differ materially from those suggested by these forward-looking statements for various reasons, including those discussed in this report under the heading “Risk Factors.” Given these risks and uncertainties, you are cautioned not to place undue reliance on our forward-looking statements. The forward-looking statements included in this report are made only as of the date hereof. We do not undertake, and specifically decline, any obligation to update any of these statements or to publicly announce the results of any revisions to any forward-looking statements to reflect future events or developments. When used in the report, unless otherwise indicated, “we,” “our,” “us,” the “Company” and “BioCryst” refer to BioCryst Pharmaceuticals, Inc.

This Annual Report on Form 10-K also contains statements about our proposed strategic combination with Idera Pharmaceuticals, Inc. Many risks and uncertainties could cause actual results to differ materially from these forward-looking statements with respect to the pending transaction, and these risks, as well as other risks associated with the pending transaction, are more fully disclosed in the joint proxy statement/prospectus that is included in the registration statement on Form S-4 (File No. 333-223255) that was filed with the U.S. Securities and Exchange Commission in connection with the pending transaction.

Agreement and Plan of Merger

As further described in Note 13 to the financial statements, which includes the definitions of certain terms used below, on January 21, 2018, we entered into an Agreement and Plan of Merger, or the “Merger Agreement”, with Idera Pharmaceuticals, Inc. (“Idera”), Nautilus Holdco, Inc. (“Holdco”), Island Merger Sub, Inc. (“Merger Sub A”) and Boat Merger Sub, Inc. (“Merger Sub B”). Pursuant to the Merger Agreement, Idera will merge into Island Merger Sub, Inc. and BioCryst will merge into Boat Merger Sub, Inc. and each of Idera and BioCryst will survive the merger as wholly owned subsidiaries of Holdco. Upon completion of the mergers described therein (the “Mergers”), each issued and outstanding share of Idera common stock will be converted into the right to receive 0.20 shares of Holdco common stock (the "Idera exchange ratio"), and each issued and outstanding share of BioCryst common stock will be converted into the right to receive 0.50 shares of Holdco common stock (the "BioCryst exchange ratio" and together with the Idera exchange ratio, the "exchange ratios"). The exchange ratios will not be adjusted for changes in the market price

of either BioCryst common stock or Idera common stock between the date of signing of the Merger Agreement and completion of the Mergers. Upon completion of the Mergers, each issued and outstanding share of Idera preferred stock (with certain exceptions) will be converted into the right to receive an amount of Holdco common stock based on its liquidation preference. On a pro forma, fully diluted basis, giving effect to all dilutive stock options, units and warrants, BioCryst stockholders will own 51.6% of the stock of the combined company and Idera stockholders will own 48.4%. The stock issuance in the Merger is expected to be tax-free to stockholders.

The Merger Agreement has been unanimously approved by the boards of directors of both companies. The transaction is subject to approval by the stockholders of both companies and satisfaction of customary closing conditions. Affiliates of Baker Bros. Advisors, LP ("Baker Brothers"), which, at the time of signing the Merger Agreement was the beneficial owner of approximately 14% of issued and outstanding BioCryst common stock and approximately 9% of issued and outstanding Idera common stock, have agreed, among other things, to vote their shares of BioCryst common stock and Idera common stock in favor of the proposal to adopt the Merger Agreement at each of the BioCryst special meeting and Idera special meeting. The combined company, which will be renamed post-closing, will be headquartered in Exton, PA, at the current Idera headquarters, with a consolidated research center in Birmingham, AL, at the current BioCryst facility.

On March 6, 2018, a purported stockholder of BioCryst filed a putative class action lawsuit against BioCryst, the BioCryst board of directors, Idera, Holdco, Merger Sub A and Merger Sub B in the United States District Court for the District of Delaware, captioned *Melvyn Klein v. BioCryst Pharmaceuticals, Inc., et al.*, Case No. 1:18-cv-00358-UNA. The complaint alleges that the defendants violated Sections 14(a) and 20(a) of the Exchange Act because the preliminary Form S-4 filed with the Securities and Exchange Commission allegedly contains material omissions and misstatements. The complaint seeks, among other things, injunctive relief preventing the consummation of the Mergers until additional disclosures are made, and damages. BioCryst believes that the action is without merit.

The transaction is expected to be completed during the second quarter of 2018. However, we have prepared this Annual Report on Form 10-K and the forward-looking statements contained in this Annual Report on Form 10-K as an independent company without giving effect to the Mergers.

Our Business

We are a biotechnology company that designs, optimizes and develops novel small molecule drugs that block key enzymes involved in the pathogenesis of diseases. We focus on oral treatments for rare diseases in which significant unmet medical needs exist and that align with our capabilities and expertise. We integrate the disciplines of biology, crystallography, medicinal chemistry and computer modeling to discover and develop small molecule pharmaceuticals through the process known as structure-guided drug design. Structure-guided drug design is a drug discovery approach by which we design synthetic compounds from detailed structural knowledge of the active sites of enzyme targets associated with particular diseases. We use X-ray crystallography, computer modeling of molecular structures and advanced chemistry techniques to focus on the three-dimensional molecular structure and active site characteristics of the enzymes that control cellular biology. Enzymes are proteins that act as catalysts for many vital biological reactions. Our goal generally is to design a compound that will fit in the active site of an enzyme and thereby prevent its catalytic activity. Molecules from our discovery efforts which are commercially available or that are in active development are summarized in the table below:

Drug/Drug Candidate	Drug Class	Therapeutic Area(s)	Phase	Rights
RAPIVAB® (peramivir injection)	Intravenous Neuraminidase Inhibitor	Acute uncomplicated Influenza	Approved (US & Canada)	Seqirus (worldwide, except Japan, Korea, Taiwan and Israel) BioCryst retains full U.S. Government stockpiling rights
ALPIVAB™ (peramivir injection)	Intravenous Neuraminidase Inhibitor	Acute uncomplicated Influenza	MAA filed and being reviewed by the EMA	Seqirus (worldwide, except Japan, Korea, Taiwan and Israel)
RAPIACTA® (peramivir injection)	Intravenous Neuraminidase Inhibitor	Uncomplicated seasonal influenza	Approved (Japan & Taiwan)	Shionogi (Japan & Taiwan)
PERAMIFLU® (peramivir injection)	Intravenous Neuraminidase Inhibitor	Uncomplicated seasonal influenza	Approved (Korea)	Green Cross (Korea)
BCX7353	Oral Serine Protease Inhibitor Targeting Plasma Kallikrein (intended to be a once-daily treatment)	Hereditary Angioedema (HAE)	Phase 3	BioCryst (worldwide)
Second Generation	Oral Serine Protease Inhibitors Targeting Plasma	HAE and other indications	Preclinical	BioCryst (worldwide)

Kallikrein Inhibitors	Kallikrein			
BCX9250 BCX9499	Activin Receptor-Like Kinase-2 Inhibitors	Fibrodysplasia Ossificans Progressiva (FOP)	Preclinical	BioCryst (worldwide)
Lead Candidate	New Molecular Entity	Undisclosed	Preclinical	BioCryst (worldwide)
Galidesivir (formerly BCX4430)	RNA dependent-RNA Polymerase Inhibitor	Broad spectrum antiviral for 20 RNA viruses, including Ebola, Marburg, and Zika	Phase 1	BioCryst (worldwide)
Mundesine® (forodesine)	Oral Purine Nucleoside Phosphorylase Inhibitor	Oncology- PTCL	Approved (Japan)	Mundipharma (worldwide)

Business Strategy

Our business strategy is to create shareholder value by focusing our discovery and development efforts on oral drugs for rare diseases for which a significant unmet medical need exists. We select disease targets and product candidates in which a small molecule would offer a significant benefit over existing products or would be the first to market. We strive to advance our product candidate portfolio from discovery to commercial markets efficiently by utilizing a small group of talented and highly-skilled employees working in conjunction with strategic outsource partners. BioCryst is unique in its approach to treat orphan diseases with orally-administered, small molecules utilizing crystallography and structure-guided drug design. The principal elements of our strategy are:

- *Focusing on High Value-Added Structure-Guided Drug Design Technologies.* We utilize structure-guided drug design in order to most efficiently develop new therapeutic candidates. Structure-guided drug design is a process by which we design a product candidate through detailed analysis of the enzyme target, which the product candidate must inhibit in order to stop the progression of the disease or disorder. We believe that structure-guided drug design is a powerful tool for the efficient development of small-molecule product candidates that have the potential to be safe and effective. Our structure-guided drug design technologies typically allow us to design and synthesize multiple product candidates that inhibit the same enzyme target, with the goal of establishing broad patent protection and formulating compounds with competitive advantages.

- *Selecting Inhibitors that are Promising Product Candidates.* We start by selecting disease targets with well-understood biology and characteristics that fit with our ability to utilize structure-guided drug design capabilities to build potent and specific enzyme inhibitors. Next, we narrow our selection of these product candidates based on product characteristics, such as initial indications of safety and biologic activity on the target.

- *Developing our Product Candidates Efficiently.* An important element of our business strategy is to efficiently progress our product candidates through the development process. In order to accomplish this, we typically strive for disease targets with a defined clinical and regulatory pathway for approval. In addition, we control fixed costs and overhead by outsourcing with strategic partners and contractors or entering into license agreements with third parties, including the U.S. Government. We maintain a streamlined corporate infrastructure that focuses our expertise. By contracting with the U.S. Government and outsourcing certain aspects of our operations, we are able to control overhead costs and focus financial resources directly where they provide the most benefit and reduce our business risk.

We are a Delaware corporation originally founded in 1986. Our corporate headquarters is located at 4505 Emperor Blvd., Suite 200, Durham, North Carolina 27703 and the corporate telephone number is (919) 859-1302. For more information about us, please visit our website at www.biocryst.com. The information on our website is not incorporated into this Form 10-K.

Peramivir injection (RAPIVAB®, RAPIACTA®, PERAMIFLU®, ALPIVAB™)

Peramivir was most recently approved under a pediatric Supplemental New Drug Application ("sNDA") in the United States in September 2017, extending its availability for the treatment of acute uncomplicated influenza to pediatric patients 2 years and older. It was approved in Canada in January 2017, and was originally approved in the United States in December 2014. Peramivir is indicated for the treatment of acute uncomplicated influenza in patients who have been symptomatic for no more than two days. Data from over 2,700 subjects treated with peramivir in 27 clinical trials was utilized to support original regulatory approval in these countries. We made RAPIVAB available for commercial sale in the U.S. through agreements with specialty distributorships during the 2014-2015 influenza season. On June 17, 2015, we announced that we licensed peramivir for the treatment of influenza to CSL Limited ("CSL"), a global biopharmaceutical company. Peramivir is being commercialized by a subsidiary of CSL called Seqirus UK Limited ("SUL" or "Seqirus"), which specializes in influenza prevention through the supply of seasonal and pandemic influenza vaccine to global markets. Under the terms of the agreement, SUL obtained worldwide rights to commercialize peramivir,with the exception of Japan, Korea, Taiwan and Israel. We retained all rights to pursue pandemic stockpiling orders for RAPIVAB from the U.S. Government, while SUL is responsible for government stockpiling outside the U.S. The product is not currently available in Canada. The parties have entered into the formal dispute resolution process under the License Agreement to resolve decisions related to the collaboration. With the out-license of peramivir to SUL, our main activities for RAPIVAB are to obtain a stockpiling procurement contract with the U.S. Government and to continue to fulfill our post-approval development requirements.

In January 2017, we announced that the European Medicines Agency ("EMA") has accepted the filing of our peramivir injection Marketing Authorization Application ("MAA") for treatment of symptoms typical of influenza in adults 18 years and older. On February 22, 2018, the Committee for Medicinal Products for Human Use ("CHMP") adopted a positive opinion for the treatment of uncomplicated influenza in adults and children from the age of 2 years and thereby recommended the granting of a Marketing Authorization for ALPIVAB™. The final EMA decision is expected in the second quarter of 2018. If the MAA is approved, Seqirus will have the ability to commercialize peramivir as ALPIVAB in the European Union for all 28 member states of the European Union, Norway and Iceland.

RAPIVAB was developed under a $234.8 million contract from the Biomedical Advanced Research and Development Authority within the United States Department of Health and Human Services ("BARDA/HHS"). See "Collaborations and In-License Relationships—BARDA/HHS" below for a further discussion of this development contract.

In January 2010, our partner Shionogi & Co., Ltd. ("Shionogi") received the first approval for peramivir injection and launched it in Japan under the commercial name RAPIACTA. It is approved for the treatment of adults, children and infants with uncomplicated seasonal influenza and those patients at high-risk for complications associated with influenza. In August 2010, Green Cross Corporation ("Green Cross") received marketing and manufacturing approval from the Korean Food & Drug Administration under the commercial name PERAMIFLU to treat patients with influenza A & B viruses, including pandemic H1N1 and avian influenza.

Hereditary Angioedema ("HAE") Drug Candidates

HAE is a rare, severely debilitating and potentially fatal genetic condition that occurs in approximately 1 in 50,000 people. HAE symptoms include recurrent episodes of edema in various locations, including the hands, feet, face, genitalia and airway. Airway swelling is particularly dangerous and can lead to death by asphyxiation. In addition, patients often have bouts of severe abdominal pain, nausea and vomiting caused by swelling in the intestinal wall. By inhibiting plasma kallikrein, our HAE drug candidates suppress bradykinin production. Bradykinin is the mediator of acute swelling attacks in HAE patients.

BCX7353: BCX7353 is a second generation HAE compound and our lead molecule that is being developed as a once-daily ("QD") oral therapy for the prevention of HAE attacks (prophylaxis), as well as an acute therapy for HAE attacks. We have recently completed our Phase 2 prophylaxis program (with the completion of APeX-1 and subsequent FDA and EMA regulatory interactions) and are in the process of initiating APeX-2 and APeX-S, a Phase 3 and a long-term safety clinical trial, respectively, required for marketing authorization in the United States and Europe.

On October 27, 2015 The Japanese Ministry of Health Labor & Welfare ("MHLW") announced that BioCryst's BCX7353 was one of six products designated under MLHW's Sakigake fast track review system. The Sakigake designation system promotes research and development in Japan, aiming at early market availability for innovative pharmaceutical products. This designation provides for additional interactions with the regulatory agency in Japan from early development through filing, prioritized development and review, and introduction of the product as soon as possible to address a serious unmet medical need. With the final results of APeX-1 available, we expect to reach agreement with the Japanese Pharmaceuticals and Medical Devices Agency ("PMDA") and the MHLW in the first half of 2018 to determine the regulatory pathway and timeline for BCX7353 in Japan.

APeX-1 Phase 2 Trial in HAE: In August 2016, we announced that we had dosed the first subject in the Phase 2 APeX-1 clinical trial of BCX7353 for the orally administered QD prophylactic treatment of HAE. APeX-1 was a three-part, dose-ranging, randomized, double-blind, placebo-controlled, dose ranging trial to evaluate the safety, tolerability, pharmacokinetics, pharmacodynamics and efficacy of BCX7353 as a preventative treatment to eliminate or reduce the frequency of angioedema attacks in HAE patients. APeX-1 was a 28-day trial and was conducted in several European countries, Australia and Canada.

On February 27, 2017, we reported statistically significant and clinically meaningful reductions in attack frequency from our first interim analysis (part 1) of the multi-part APeX-1 clinical trial in HAE patients. On May 25, 2017, we announced positive results from a second interim analysis of our APeX-1 clinical trial. This second interim analysis was a composite of pooled data from Parts 1 and 2 of the clinical trial.

On September 5, 2017, we announced final results from the Phase 2 APeX-1 clinical trial in HAE patients. This final analysis evaluated data from all patients in Parts 1, 2 and 3 of the trial and evaluated four doses of BCX7353 ranging

from 62.5 mg up to 350 mg for 28 days. The primary efficacy endpoint of APeX-1 was the number of angioedema attacks. Efficacy analyses were conducted for HAE attacks reported over the entire dosing interval (Days 1 through 28) and during the dosing period in which plasma concentrations of BCX7353 should be at steady-state conditions (Days 8 through 28). Secondary efficacy endpoints included severity and duration of angioedema attacks and measures of health-related quality of life. Safety was characterized through evaluation of adverse events and laboratory testing. Pharmacokinetics and pharmacodynamic effects were assessed through measurement of plasma drug levels and kallikrein inhibition.

Seventy-five subjects were randomized and included in the final analysis of pooled data from Parts 1, 2 and 3: 7 at 62.5 mg, 14 at 125 mg, 14 at 250 mg and 18 at 350 mg of BCX7353 QD; and 22 placebo. The qualifying attack rate was approximately 1/week. Baseline characteristics were generally well balanced across the treatment groups. Compliance with daily study drug dosing for 28 days was excellent (≥ 98% across all treatment groups). Subjects recorded angioedema symptoms in a diary; diary records were reviewed and attacks adjudicated by an independent expert group. The primary endpoint of the trial was the number of HAE attacks. The pre-specified per-protocol final analysis included data on a total of 67 subjects with Type 1 or Type 2 HAE completing > 90% of planned study drug doses. The percentage reductions by treatment group in the mean rate of angioedema attacks for the pre-defined effective dosing period (weeks 2 through 4) in BCX7353 treated subjects are indicated in the table below. Results from a pre-planned analysis of peripheral and abdominal attacks are also shown. Similar results to those shown were seen in the analysis of weeks 1 through 4 and the intent-to-treat population.

Percentage change in attacks vs. placebo (p-Value)

Per protocol population, weeks 2-4 of treatment

	N	All Attacks	Peripheral Attacks	Abdominal Attacks
BCX7353 350 mg	14	-58% (p < 0.001)	-90% (p < 0.001)	-5% (p=0.884)
BCX7353 250 mg	12	-46% (p=0.006)	-66% (p=0.005)	-13% (p=0.700)
BCX7353 125 mg	13	-73% (p < 0.001)	-79% (p < 0.001)	-63% (p=0.048)
BCX7353 62.5 mg	7	-7% (p=0.715)	-25% (p=0.371)	+22% (p=0.578)

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The 125 mg dose level showed statistically significant and similar benefit for all attacks, and also when split into abdominal attacks and peripheral attacks. In contrast, at the 250 mg and 350 mg dose levels, there was no statistically significant effect for abdominal attacks, despite strong and statistically significant effects on peripheral attacks. Based on these findings, it is likely that subjects in the 250 mg and 350 mg arms recorded transient drug-related abdominal AEs as HAE attack symptoms in their diary. As expected, the lowest dose tested (62.5 mg QD) showed no statistically significant differences in attack rates (total, or when split into abdominal and peripheral) compared with placebo. The range of doses studied and associated results complete the dose response evaluation required to inform Phase 3 dose selection.

An analysis of the proportion of subjects achieving levels of percent reduction in attacks was also performed; this analysis compared on-study attack rate to qualifying attack rate for each subject. Response levels were defined as reductions of ≥50%, ≥70%, or ≥90%. Results for all dose groups indicated that the dose group with the highest proportion of responders using each definition was the 125 mg group, and was 4 to 5 times greater than the proportion of responders in the placebo group. The proportion of responders in the 62.5 mg group was similar to placebo.

In addition, we performed an exploratory ad hoc analysis of the placebo, 62.5 mg QD and 125 mg QD dose groups to examine the relationship of change in attack rate to dose and the effect of achieving target drug levels. The 125 mg group had a mean change in attack rate of -0.73 per week (improvement from qualifying) compared to -0.07 attacks per week for placebo and -0.24 attacks per week for the 62.5 mg QD dose group. The effect of achieving the target drug level (equivalent to 4 times EC50 against plasma kallikrein) at trough measured at steady state on study day 15 was also explored for subjects randomized to the placebo, 62.5 mg and 125 mg levels. Placebo subjects were assigned a zero drug level value. Subjects were categorized as achieving or not achieving the target level and the proportion of subjects in each of these two categories who had responses of reductions in ≥50%, ≥70%, or ≥90% in attack rate was compared and the odds ratios calculated. The odds for subjects achieving ≥50%, ≥70%, or ≥90% responses if the target drug level was met or exceeded were 5.6, 12.9 and 26.4 times higher respectively than for subjects who did not meet or exceed target drug level.

A significant increase in the proportion of attack-free subjects was observed in the 125 mg QD dose group compared to placebo (46% versus 10%, p= 0.033). Furthermore, a clinically important and statistically significant improvement in patient quality of life total score, measured using the AE-QoL (Quality of Life) instrument, was seen in the 125 mg QD group compared to placebo ($p < 0.001$). The mean improvement in the 125 mg QD group was more than four times the minimum clinically important difference.

Oral BCX7353 once-daily for 28 days was generally safe and well tolerated in subjects with HAE. No new clinically significant safety findings were seen in Part 3 of the trial from the two earlier component parts of the trial. Overall, there was one serious adverse event of moderate gastrointestinal infection that was determined by the investigator not to be drug-related. Study drug was discontinued before day 28 in three subjects in the BCX7353 350 mg treatment arm (unrelated pre-existing liver disorder; related gastroenteritis with liver disorder; and related vomiting/abdominal cramps). The most common treatment-emergent AEs in descending order of frequency were the common cold, headache, diarrhea, nausea and abdominal pain. Gastrointestinal AEs were infrequent at the 125 mg and 62.5 mg dose levels, and there were no clinically significant laboratory abnormalities at these dose levels, though increases in liver enzymes were observed in several subjects at higher dose levels. Adverse events in the gastrointestinal system organ class were more frequent in the 350 mg QD and 250 mg QD dose groups compared to placebo. Elevated liver

enzymes were reported in several subjects, and an analysis of liver enzyme safety tests including alanine aminotransferase ("ALT") levels showed that of 4 subjects who had elevations of ALT to more than or equal to 3 times the upper limit of normal ("ULN"), all 4 had prior exposure to androgens, 3 were in the 350 mg QD group, 1 was in the 250 mg QD group, and 3 had baseline (prior to study drug administration) elevations in ALT of close to or greater than 3 times the ULN.

Steady state BCX7353 plasma levels and kallikrein inhibition levels were consistent with previous analyses. Steady state trough drug levels (24 hours after dosing) exceeded the proposed target threshold for efficacy of 4 times the 50% effective concentration (EC 50) of 9ng/ml in 0%, 64%, 100% and 100% of subjects at the 62.5 mg, 125 mg, 250 mg and 350 mg dose levels, respectively.

In the fourth quarter of 2017, we completed regulatory interactions with the FDA and EMA and reached agreement on the Phase 3 program requirements to support NDA and MAA submissions for prophylactic treatment of HAE with BCX7353. Based upon this agreement, we began screening patients in the APeX-S and APeX-2 clinical trials, which are the significant aspects of the remaining development program. Accordingly, we have initiated screening for a 24-week randomized, double-blind, placebo-controlled Phase 3 clinical trial studying two doses of BCX7353 ("APeX-2"). Patients will roll-over into a 24 week safety extension. Separately, we announced that we initiated a long-term safety trial ("APeX-S"), which will enroll approximately 160 patients who will be randomized to the two doses of BCX7353 included in APeX-2. Subjects will remain on study-drug for 48 weeks. On February 28, 2018, we announced that we had dosed the first patient in the APeX-S trial. We have received orphan drug status from the FDA for BCX7353.

ZENITH-1 Trial: On August 2, 2017, we announced the dosing of the first subject into ZENITH-1, a clinical trial studying up to three dosage strengths of a liquid formulation of BCX7353 given as a single oral dose for the acute treatment of angioedema attacks in patients with HAE. ZENITH-1 is a randomized, double-blind, placebo-controlled, adaptive dose-ranging trial of the efficacy, safety and tolerability of BCX7353 for treatment of acute angioedema attacks, and will enroll up to 60 subjects with HAE. Blinded study drug is being dosed as an oral liquid after onset of symptoms, for up to 3 attacks in each subject, with each subject receiving both BCX7353 (for 2 attacks) and placebo (for one attack) in a randomized sequence. The trial is structured with up to 3 consecutive cohorts testing single doses of 750 mg (36 subjects), 500 mg (up to 12 subjects) and 250 mg (up to 12 subjects), starting with 750 mg. Efficacy assessments include patient-reported composite visual analogue scale ("VAS") scores, patient global assessment, change in symptoms, and use of rescue medication. Treatment effect will be assessed by comparing the proportion of BCX7353-treated and placebo-treated attacks that have a stable or improved composite VAS at 4 hours post dose. Enrollment has gone well with the trial thus far, and we have completed enrollment in the 750 mg cohort and have begun enrolling patients in the 500 mg cohort.

Fibrodysplasia Ossificans Progressiva ("FOP") Drug Candidates

FOP is a very rare disease that affects approximately 1 in 2 million people worldwide. In patients with FOP, minor trauma can result in rapid development of painful inflammatory masses. These progress over several weeks resulting in the replacement of the affected soft tissue by permanent bone masses. There is no cure for this condition, and there are no approved treatments for FOP.

On January 5, 2018, we announced the advancement of a program exploring activin receptor-like kinase-2 ("ALK2") inhibitors for treatment of FOP. ALK2 enzyme is a part of the normal signaling pathway for bone formation and responds to binding its specific ligands (bone morphogenic proteins, or BMPs), by stimulating normal bone growth and renewal in healthy children and adults. Specific activating mutations of the ALK2 gene are seen in all cases of FOP. An activating mutation in ALK2 is necessary for the disease to occur, making the ALK2 kinase an ideal drug target for treatment of FOP with an ALK2 kinase inhibitor. We have begun an Investigational New Drug Application ("IND") enabling nonclinical development with our two optimized lead candidates, BCX9250 and BCX9499. BCX9250 and BCX9499 were selected from a number of potential candidates based on potency for the target kinase, selectivity, and safety screening criteria that included industry-standard in vitro panels and in vivo PK and safety studies in laboratory animals. We plan to complete IND-enabling manufacturing and nonclinical safety studies to support Phase 1 trials beginning in 2019, and as early as possible thereafter, clinical trials in patients with FOP.

The goal of the ALK2 inhibitor project at BioCryst is to discover and develop orally administered kinase inhibitor drug candidates that are able to slow or prevent the progressive formation of bone in soft tissues, also known as heterotopic ossification ("HO"). The two lead candidate molecules dramatically reduced HO in an experimental model of ALK2-driven HO in laboratory rats, with up to 89 percent reduction in volume of HO compared to controls.

Other Nondisclosed preclinical program

We have begun IND-enabling nonclinical development with a lead candidate in an undisclosed orphan disease. We are choosing not to disclose the therapeutic area/orphan disease for competitive reasons. We have evaluated a few promising candidates from a larger number of potential candidates based on potency for the target, selectivity, and safety screening criteria that included industry-standard in vitro panels and in vivo PK and safety studies in laboratory animals, and have selected a lead optimized compound to advance into IND-enabling nonclinical development studies. Similar to our FOP program, we plan to complete IND-enabling manufacturing and nonclinical safety studies to support Phase 1 trials beginning in 2019.

Galidesivir (formerly BCX4430)

Galidesivir is a broad-spectrum antiviral ("BSAV") research program and is currently being developed under contracts with the National Institute of Allergy and Infectious Diseases ("NIAID/HHS") and the U.S. Department of Health and Human Services ("BARDA/HHS"). The objective of our BSAV program is to develop galidesivir as a broad-spectrum therapeutic for viruses that pose a threat to national health and security. The primary focus of the program is treatment of hemorrhagic fever viruses. NIAID/HHS funding has supported galidesivir's development as a treatment for Marburg virus and Ebola virus. In March 2014, galidesivir was featured in an online *Nature* publication depicting successful efficacy results in animal models of infection with Marburg virus and Ebola virus. Galidesivir completely protected cynomolgus macaques from Marburg virus infection when administered by intramuscular ("i.m.") injection 48 hours post-infection. Post-exposure i.m. administration of galidesivir also protected rodents against Marburg virus and Ebola virus infections. In addition, galidesivir was shown to be active in vitro against a broad range of other RNA viruses. The publication, which reported the protection of non-human primates from filovirus disease by galidesivir, describes efficacy results generated from an ongoing collaboration between scientists in the U.S. Army Medical Research Institute of Infection Diseases ("USAMRIID") and us. Galidesivir has been shown to be active against more than 20 RNA viruses in nine different families, including filoviruses, togaviruses, bunyaviruses, arenaviruses, paramyxoviruses, coronaviruses and flaviviruses. In animal studies, galidesivir has demonstrated survival benefits against a variety of serious pathogens, including Ebola, Marburg, Yellow Fever and Zika viruses and from exposures to aerosolized Marburg virus, an experimental condition designed to mimic an exposure scenario that could result during a bioterrorist attack.

On December 15, 2014, we announced the dosing of the first subject in a randomized, placebo-controlled Phase 1 clinical trial to evaluate i.m. administration of galidesivir in healthy volunteers. The main goals of this first-in-human study were to evaluate the safety, tolerability and pharmacokinetics of escalating doses of galidesivir administered via i.m. injection in healthy subjects. In part one of the study, subjects received a single dose of galidesivir; in part two of the study, subjects received galidesivir for seven days. There were six single-dose cohorts and four multiple-dose cohorts evaluated, and 91 healthy volunteers participated. In August 2016, we reported the results of this study. Galidesivir administered by i.m. injection was generally safe and well tolerated over the range of doses up to 10 mg/kg, and durations tested (up to 7 days). Fifty subjects received doses of study drug and there were no serious or severe adverse events. The most frequently reported adverse event across all cohorts was injection site pain and there were no clinically significant laboratory abnormalities which occurred at any doses. In addition, co-administration of lidocaine with galidesivir was determined to ameliorate injection site pain without altering the plasma pharmacokinetics profile of galidesivir. From this clinical trial, we determined galidesivir was safe and well tolerated, and that exposure was dose-proportional and supported the continued development of this BSAV drug candidate for serious emerging viral infections.

On December 23, 2014, we announced results from a successful proof-of-concept study of galidesivir for the treatment of experimental Ebola virus infection in Rhesus macaques, conducted at USAMRIID. The primary goal of the study was to assess the effect of galidesivir treatment on survival through Day 41 in animals infected with Ebola virus. Dosing of placebo or galidesivir by i.m. injection was initiated 30-120 minutes after virus challenge and continued twice a day ("BID") for 14 days. Animals were dosed with either placebo, 16 mg/kg of galidesivir BID or 25 mg/kg of galidesivir BID. Survival at day 41 in the 16 mg/kg BID group of galidesivir treated animals was 4 of 6 (66.7%, $p < 0.001$ compared to 0% survival in controls) and 6 of 6 in the 25 mg/kg BID group (100%, $p < 0.001$ compared to controls). The overall survival rate for galidesivir treated animals at day 41 was 10 of 12 (83%, $p < 0.001$ compared to controls). Preliminary evaluation of the quantity of virus in the blood showed an approximate 3-log reduction in Ebola virus RNA copies/mL of plasma, compared with control animals. This Rhesus macaque study was conducted following the completion, in November 2014, of a dose-ranging study of galidesivir for the experimental treatment of cynomolgus macaques infected with Ebola virus. The cynomolgus macaque study was designed to evaluate whether galidesivir showed a meaningful benefit for survival in Ebola virus non-human primate ("NHP") disease models and explore a dose range. In this study galidesivir demonstrated a statistically significant prolongation of survival for the animals at the highest dose regimen tested, but no animals survived beyond 21 days.

On March 7, 2016, results from a preclinical study of our antiviral galidesivir in interferon-receptor-deficient mice infected with Zika virus were presented at a World Health Organization ("WHO") conference in Geneva, Switzerland. The primary goal of the study was to assess the effect of galidesivir treatment on survival through Day 28 in interferon-receptor-deficient mice infected with the Zika virus. Galidesivir was administered by i.m. injection twice a day beginning four hours prior to virus challenge and continuing for eight days; two dose levels were tested. In the standard dose galidesivir group, 7 of 8 mice survived through Day 28. In the low dose galidesivir group (n=8), and in control groups administered vehicle placebo (n=8) or ribavirin at two dose levels (n=16); no animals survived to Day 28. Overall survival for the standard dose level of galidesivir was superior to both the placebo and the ribavirin treatment control groups ($p < 0.0001$). For both dose levels of galidesivir, median survival was superior to both control groups (>28 days for galidesivir standard dose and 23 days for low dose) compared to 14 to 17 days for controls.

Additional studies of galidesivir in the same mouse model were conducted at Utah State University. In one study, surviving mice that were previously treated with the standard dose of galidesivir after initial Zika virus challenge were re-challenged with the Zika virus on Day 28, without additional galidesivir treatment. All the re-challenged mice survived through day 56 with no disease signs observed, indicating the development of effective immune responses. A further experiment using the same AG129 mouse model tested the delayed treatment with galidesivir after viral challenge. Groups of mice received galidesivir 150 mg/kg twice-daily by i.m. injection starting on days 1, 3, 5, or 7 post infection, or vehicle (control group). All galidesivir treated groups showed a statistically significant survival benefit compared to vehicle controls.

On October 7, 2017, galidesivir nonclinical results from a Zika virus infection model were presented at a scientific session at IDWeek by Dr. James B. Whitney, PhD, Assistant Professor of Medicine, Harvard Medical School, and Principal Investigator in the Center for Virology and Vaccine Research at Beth Israel Deaconess Medical Center in Boston. A total of 74 Rhesus macaques infected with a Puerto Rican ZIKV isolate by various routes were studied, 55 treated with galidesivir and 19 with vehicle. Galidesivir i.m. was started at different times relative to virus challenge in different treatment groups - from 90 minutes to 72 hours after subcutaneous ("SC") ZIKV challenge, and up to 5 days after intravaginal ("IVAG") challenge. Efficacy of galidesivir was evaluated over a range of loading and maintenance doses; the highest consisted of a one-day loading dose of 100mg/kg BID followed by a maintenance dose of 25mg/kg

BID for nine days. Outcome measures included virology – ZIKV RNA levels in plasma, urine, saliva, and cerebrospinal fluid ("CSF") – galidesivir pharmacokinetics, cellular and humoral immunologic markers, complete blood counts, and clinical chemistries.

All vehicle-treated control, animals developed high levels of Zika virus in the blood plasma (viremia), and had readily detectable ZIKV RNA in CSF, saliva and urine post-infection. In contrast, all animals treated with galidesivir in the first 24 hours after SC ZIKV challenge did not develop viremia, and were either negative for or had significantly reduced ZIKV RNA in bodily fluids. Animals treated with galidesivir later (up to 72 hours post infection) were partially protected – they had detectable plasma ZIKV RNA, but the onset of viremia was delayed, and its magnitude was significantly reduced compared to controls. Animals infected via the IVAG route were protected by galidesivir treatment when dosing was delayed as late as 5 days after infection, with no viremia and significant reductions in ZIKV RNA in the CSF compared with controls. Galidesivir was well-tolerated and offered significant protection against ZIKV challenge.

After multiple discussions with the FDA, NIAID/HHS, and BARDA/HHS regarding the most appropriate future development path for galidesivir, we will focus our efforts on Marburg virus. While both Ebola and Marburg infections represent significant medical countermeasure ("MCM") emergencies or threats to the United States, we have concluded the greatest unmet medical need is now to develop a MCM to address the threat of Marburg infection. Accordingly, we plan to open an IND for galidesivir i.v. for post-exposure prophylaxis and treatment of Marburg infection.

Mundesine (forodesine)

Mundesine is a Purine Nucleoside Phosphorylase ("PNP") inhibitor developed by Mundipharma as a treatment for cancer under a world-wide license agreement. PNP is a purine salvage pathway enzyme. High doses of PNP inhibitors could be useful in the treatment of hematological malignancies. Mundipharma has received orphan drug status for Mundesine, and following its successful completion of a Phase 2 pivotal study in recurrent/refractory peripheral T-cell lymphoma ("PTCL") patients in Japan it was approved in April 2017 by the MHLW in Japan as Mundesine. We are currently receiving royalties on Mundesine.

On November 11, 2011, we entered into an Amended and Restated License and Development Agreement (the "Amended and Restated Agreement") with Mundipharma, amending and restating the February 1, 2006 exclusive, royalty-bearing Development and License Agreement for the development and commercialization of Mundesine for use in the field of oncology. Under the terms of the Amended and Restated Agreement, Mundipharma obtained worldwide rights to Mundesine, so Mundipharma controls the worldwide development and commercialization of Mundesine and assumes all future development and commercialization costs.

We have licensed the PNP technology from Albert Einstein College of Medicine of Yeshiva University ("AECOM") and Industrial Research, Ltd. ("IRL") and will owe sublicense payments to AECOM/IRL based on the future milestone payments and royalties received by us from Mundipharma and any other partners for which we out-license our PNP inhibitors. On November 17, 2011, we amended our agreement with AECOM/IRL whereby AECOM/IRL agreed to accept a reduction of one-half of the percentage of Net Proceeds (as defined in the license agreement) received by us under our Amended and Restated Agreement with Mundipharma. This reduction does not apply to royalty payments made as a result of sales of licensed products by our sub licensees.

Collaborations and In-License Relationships

U.S. Department of Health and Human Services ("BARDA/HHS"). In January 2007, BARDA/HHS awarded us a $102.6 million, four-year contract for the advanced development of peramivir for the treatment of influenza. During 2009, peramivir clinical development shifted to focus on intravenous delivery and the treatment of hospitalized patients. To support this focus, a September 2009 contract modification was awarded to extend the i.v. peramivir program and to increase funding by $77.2 million. On February 24, 2011, we announced that BARDA/HHS had awarded us a $55.0 million contract modification, intended to fund completion of the Phase 3 development of i.v. peramivir for the treatment of patients hospitalized with influenza. That contract modification brought the total contract award from BARDA/HHS to $234.8 million and provided funding to support the filing of an NDA to seek regulatory approval for i.v. peramivir in the U.S. In December 2014, the FDA approved the NDA. The BARDA/HHS contract expired on June 30, 2014 according to its terms.

On March 31, 2015, we announced that BARDA/HHS awarded us a contract for the continued development of galidesivir as a potential treatment for diseases caused by RNA pathogens, including filoviruses. This BARDA/HHS contract has a potential value of $39.1 million if all contract options are exercised. As of December 31, 2017, a total of $20.6 million has been awarded under exercised options within this contract.

National Institute of Allergy and Infectious Diseases ("NIAID/HHS"). In September 2013, NIAID/HHS contracted with us for the development of galidesivir as a treatment for Marburg, and subsequently, Ebola virus disease. NIAID/HHS, part of the National Institutes of Health, made an initial award of $5.0 million to us. All options under this contract have been awarded and the total contract value is $39.5 million. The goals of this contract, including amendments, are to file IND applications for i.v. and i.m. galidesivir for the treatment of Marburg virus disease and other hemorrhagic fever viruses, to study galidesivir as a treatment for Ebola virus disease, and to conduct a Phase 1 human clinical trials.

The contracts with BARDA/HHS and NIAID/HHS are cost-plus-fixed-fee contracts. That is, we are entitled to receive reimbursement for all costs incurred in accordance with the contracts provisions that are related to the development of galidesivir plus a fixed fee, or profit. BARDA/HHS and NIAID/HHS will make periodic assessments of progress and the continuation of the contract is based on our performance, the timeliness and quality of deliverables, and other factors. The government has rights under certain contract clauses to terminate these contracts. These contracts are also terminable by the government at any time for breach or without cause.

Seqirus UK Limited. On June 16, 2015, we and SUL, a limited company organized under the laws of the United Kingdom and a subsidiary of CSL, a company organized under the laws of Australia, entered into a License Agreement (the "SUL Agreement") granting SUL and its affiliates worldwide rights to develop, manufacture and commercialize peramivir for the treatment of influenza except for the rights to conduct such activities in Israel, Japan, Korea and Taiwan (the permitted geographies together constituting the "Territory"). Peramivir is an intravenous treatment for acute uncomplicated influenza and is currently approved for use in the United States, Canada, Japan, Taiwan and Korea. RAPIVAB is the first and only intravenous influenza treatment in the world and was originally approved by the U.S. Food and Drug Administration in December 2014 for the treatment of acute uncomplicated influenza in patients 18 years and older who have been symptomatic for no more than two days. We retain all rights and associated economics to procure pandemic stockpiling orders for RAPIVAB from the U.S. Government, while SUL has the right to pursue government stockpiling outside the U.S.

Pursuant to the SUL Agreement, peramivir is being commercialized by CSL's subsidiary, SUL, which specializes in influenza prevention through the supply of seasonal and pandemic vaccine to global markets. SUL is responsible for the manufacture, commercialization and decision-making authority with respect to the development and commercialization of peramivir within the Territory and is responsible for all related costs, including sales and promotion. We exercise sole decision-making authority with regard to the development and commercialization of peramivir outside of the Territory and are responsible for all associated costs.

Under the terms of the SUL Agreement, we are responsible for fulfilling all post-marketing approval commitments in connection with the FDA's approval of the NDA, and upon fulfillment will transfer ownership of and financial responsibility for the NDA to SUL. Pursuant to potential rights to sell ALPIVAB in the EU, we are also responsible for regulatory filings and interactions with the European Medicines Agency until marketing approval for ALPIVAB is obtained and assigned to SUL. In accordance with the SUL Agreement, we and SUL formed a joint steering committee, composed of an equal number of representatives from each party, to oversee, review and coordinate the conduct and progress of the commercialization of peramivir in the Territory and any additional development. The parties have entered into the formal dispute resolution process under the License Agreement to resolve decisions related to the collaboration.

Under the terms of the SUL Agreement, we received an upfront payment of $33.7 million, have received $7.0 million of milestone payments and may receive an additional $5.0 million milestone payment related to the successful marketing approval by the EMA for an adult indication in the EU. We are also entitled under the SUL Agreement to receive tiered royalties at a percentage rate beginning in the mid-teens contingent upon meeting minimum thresholds of net sales, as well as a low-thirties percentage of the gross profit from government stockpiling purchases made outside the U.S. Specifically, we receive tiered royalties at a percentage rate in the mid-teens to low-forties on net sales in the U.S. during a Contract Year (defined as July 1 - June 30) and tiered royalties at a percentage rate in the mid-teens to mid-twenties on net sales in the Territory, other than in the U.S., during a Calendar Year, each subject to certain downward adjustments for circumstance or events impacting the overall market opportunity. SUL's royalty payment obligations commence on the date of the SUL Agreement and expire, on a country-by-country basis, upon the later of (i) the expiration of legal exclusivity in such country and (ii) ten years from the date of the SUL Agreement (the "Royalty Term"). We developed RAPIVAB under a license from UAB and will owe sublicense payments to them on any future milestone payments and/or royalties received by us from SUL.

The term of the SUL Agreement shall continue on a country-by-country basis until the expiration of the last-to-expire Royalty Term in any such country in the Territory. Either party may terminate the SUL Agreement in its entirety if the other party breaches a payment obligation, otherwise materially breaches the SUL Agreement, subject to applicable cure periods, or if the other party suffers an insolvency event. We may also terminate the SUL Agreement if SUL or any of its affiliates seek to challenge the validity of our patents. Termination does not affect a party's rights which have accrued prior thereto, but there are no stated payments in connection with termination other than payments of obligations previously accrued. For all terminations exercised by us, the SUL Agreement provides for the termination of any sublicenses granted by SUL to third parties, and in the case of termination by us for cause, the ceasing of SUL's activities with respect to RAPIVAB, the discontinued use of all of our intellectual property and the termination of licenses and rights previously granted to SUL. If requested by us, SUL shall also promptly sell to us all licensed product it then holds in stock, otherwise, SUL may continue to sell such licensed product for designated periods.

Shionogi & Co., Ltd. (“Shionogi”). On February 28, 2007, we entered into a License, Development and Commercialization Agreement (as amended, supplemented or otherwise modified, the “Shionogi Agreement”), an exclusive license agreement with Shionogi to develop and commercialize peramivir in Japan for the treatment of seasonal and potentially life-threatening human influenza. In October 2008, we and Shionogi amended the Shionogi Agreement to expand the territory covered by the agreement to include Taiwan. Under the terms of the Shionogi Agreement, Shionogi obtained rights to injectable formulations of peramivir in Japan in exchange for a $14.0 million upfront payment. The license provided for development milestone payments (up to $21.0 million), which have all been paid, and for commercial milestone payments (up to $95.0 million) in addition to double-digit (between 10% and 20%) royalty payments on product sales of peramivir.

In December 2017, we, on behalf of Royalty Sub (defined below), instituted arbitration proceedings against Shionogi in order to resolve a dispute with Shionogi under the Shionogi Agreement regarding the achievement of sales milestones and escalating royalties. In the event that we prevail in the arbitration, any amounts realized in the arbitration or in respect of the milestone payments and escalating royalties that are the subject of the arbitration would be for the benefit of Royalty Sub and be used by Royalty Sub to service its obligations under the non-recourse PhaRMA Notes (defined below), except for any amounts realized by us in respect of royalties relating to sales to Japanese governmental entities, which amounts would be retained by us. The costs associated with the arbitration proceedings are expected to be paid out of the assets of Royalty Sub in accordance with the terms of the indenture and servicing agreement relating to the PhaRMA Notes, except to the extent such costs are recovered in connection with any arbitration award in favor of us and Royalty Sub if they prevail in the arbitration proceedings. Arbitration proceedings, like other legal proceedings, are inherently uncertain. As a result, we cannot assure you that we will prevail in the arbitration. As any arbitration award in favor of us would accrue primarily to the benefit of Royalty Sub and the holders of the PhaRMA Notes, and because the costs associated with the arbitration proceedings are expected to come out of the assets of Royalty Sub if not recovered as part of any arbitration award in favor of us and Royalty Sub, we do not currently anticipate that these arbitration proceedings will have a material adverse impact on us.

Generally, all payments under the Shionogi Agreement are non-refundable and non-creditable, but they are subject to audit. Shionogi is responsible for all development, regulatory, and marketing costs in Japan. The term of the Shionogi Agreement is from February 28, 2007 until terminated. Either party may terminate in the event of an uncured breach. Shionogi has the right of termination without cause. In the event of termination, all license and rights granted to Shionogi shall terminate and shall revert back to us. We developed peramivir under a license from the University of Alabama Birmingham ("UAB") and have paid sublicense payments to UAB on the upfront payments and will owe sublicense payments on any future event payments and/or royalties received by us from Shionogi.

Shionogi Royalty Monetization and Non-Recourse Notes Payable. On March 9, 2011, we completed a $30.0 million financing transaction to monetize certain future royalty and milestone payments under the Shionogi Agreement, pursuant to which JPR Royalty Sub LLC ("Royalty Sub") a wholly-owned subsidiary of BioCryst, issued the PhaRMA Notes discussed below. We received net proceeds of $22.7 million from this transaction.

As part of the transaction, we entered into a purchase and sale agreement dated as of March 9, 2011 with Royalty Sub, whereby we transferred to Royalty Sub, among other things, (i) its rights to receive certain royalty and milestone payments from Shionogi arising under the Shionogi Agreement, and (ii) the right to receive payments under a Japanese yen/US dollar foreign currency hedge arrangement (as further described below, the "Currency Hedge Agreement") put into place by us in connection with the transaction. Royalty payments will be paid by Shionogi in Japanese yen and milestone payments will be paid in U.S. dollars. Our collaboration with Shionogi was not impacted by this transaction.

On March 9, 2011, Royalty Sub completed a private placement to institutional investors of $30.0 million in aggregate principal amount of its PhaRMA Senior Secured 14.0% Notes due 2020 (the "PhaRMA Notes"). The PhaRMA Notes were issued by Royalty Sub under an Indenture, dated as of March 9, 2011 (the "Indenture"), by and between Royalty Sub and U.S. Bank National Association, as Trustee. Principal and interest on the PhaRMA Notes issued are payable from, and are secured by, the rights to royalty and milestone payments under the Shionogi Agreement transferred by us to Royalty Sub and payments, if any, made to Royalty Sub under the Currency Hedge Agreement. The PhaRMA Notes bear interest at 14% per annum, payable annually in arrears on September 1st of each year (the "Payment Date"). We remain entitled to receive any royalties and milestone payments related to sales of peramivir by Shionogi following repayment by Royalty Sub of the PhaRMA Notes.

Royalty Sub's obligations to pay principal and interest on the PhaRMA Notes are obligations solely of Royalty Sub and are without recourse to any other person, including the Company, except to the extent of our pledge of its equity interests in Royalty Sub in support of the PhaRMA Notes. We may, but are not obligated to, make capital contributions to a capital account that may be used to redeem, or on up to one occasion pay any interest shortfall on, the PhaRMA Notes.

In September 2014, Royalty Sub was unable to pay the full amount of interest payable in September 2013 by the next succeeding Payment Date for the PhaRMA Notes. This inability constituted an event of default under the terms of the Indenture. Accordingly, we have classified the PhaRMA Notes and related accrued interest as current liabilities on our balance sheet. As a result of the event of default under the PhaRMA Notes, the holders of the PhaRMA Notes may

pursue acceleration of the PhaRMA Notes, may foreclose on the collateral securing the PhaRMA Notes and the equity interest in Royalty Sub and exercise other remedies available to them under the Indenture in respect of the PhaRMA Notes. In such event, we may not realize the benefit of future royalty payments that might otherwise accrue to us following repayment of the PhaRMA Notes and we might otherwise be adversely affected. Due to the non-recourse nature of the PhaRMA Notes, in the event of any potential acceleration or foreclosure, we believe the primary impact to us would be the loss of future royalty payments from Shionogi and legal costs associated with retiring the PhaRMA Notes. In addition, we may incur costs associated with liquidating the related Currency Hedge Agreement, which would no longer be required in the event of foreclosure or if the PhaRMA Notes cease to be outstanding. As the PhaRMA Notes are the obligation of Royalty Sub, we do not currently expect the event of default on the PhaRMA Notes to have a significant impact on our future results of operations or cash flows. As of December 31, 2017, the PhaRMA Notes remain in default.

The Indenture does not contain any financial covenants. The Indenture includes customary representations and warranties of Royalty Sub, affirmative and negative covenants of Royalty Sub, Events of Default and related remedies, and provisions regarding the duties of the Trustee, indemnification of the Trustee, and other matters typical for indentures used in structured financings of this type. The PhaRMA Notes are redeemable at the option of Royalty Sub at any time at a redemption price equal to 100% of the outstanding principal balance of the PhaRMA Notes being redeemed, plus accrued and unpaid interest through the redemption date on the PhaRMA Notes being redeemed.

Foreign Currency Hedge. In connection with the issuance by Royalty Sub of the PhaRMA Notes, we entered into a Currency Hedge Agreement to hedge certain risks associated with changes in the value of the Japanese yen relative to the U.S. dollar. Under the Currency Hedge Agreement, we have the right to purchase dollars and sell yen at a rate of 100 yen per dollar for which we may be required to pay a premium in each year from 2018 through 2020. A payment of $2.0 million will be required if, on May 18 of the relevant year, the U.S. dollar is worth 100 yen or less, as determined in accordance with the Currency Hedge Agreement.

The Currency Hedge Agreement does not qualify for hedge accounting treatment; therefore, mark-to-market adjustments are recognized in our Consolidated Statement of Comprehensive Loss. Cumulative mark-to-market adjustments resulted in losses of $1.8 million, $1.7 million and $0.6 million for the twelve months ended December 30, 2017, 2016, and 2015, respectively. In addition, realized currency exchange gains of $1.0 million, $0.8 million and $1.7 million were recognized in 2017, 2016 and 2015, respectively, related to the exercise of a U.S. dollar/Japanese yen currency option under our foreign currency hedge. We are also required to post collateral in connection with the mark-to-market adjustments based on defined thresholds. As of December 31, 2017, no collateral was posted under the Currency Hedge Agreement. We will not be required at any time to post collateral exceeding the maximum premium payments remaining payable under the Currency Hedge Agreement. The maximum amount of hedge collateral we would be required to post is $5.9 million. We are required to maintain a foreign currency hedge at 100 yen per dollar under the agreements governing the PhaRMA Notes.

Green Cross. In June 2006, we entered into an agreement with Green Cross to develop and commercialize peramivir in Korea. Under the terms of the agreement, Green Cross is responsible for all development, regulatory, and commercialization costs in Korea. We received a one-time license fee of $250,000. The license provides that we will share in profits resulting from the sale of peramivir in Korea, including the sale of peramivir to the Korean government for stockpiling purposes. Furthermore, Green Cross will pay us a premium over its cost to supply peramivir for development and any future marketing of peramivir products in Korea. Both parties have the right to terminate in the event of an uncured material breach. In the event of termination, all rights, data, materials, products and other information would be transferred to us.

In August 2010, we announced that Green Cross had received marketing and manufacturing approval from the Korean Food & Drug Administration for i.v. peramivir, under the commercial name PERAMIFLU®. PERAMIFLU is intended to treat patients with influenza A & B viruses, including pandemic H1N1 and avian influenza. Green Cross received the indication of single dose administration of 300 mg i.v. peramivir.

Other Peramivir Collaborations. In addition to our collaborations with Shionogi and Green Cross, in March 2011 we entered into an arrangement with Neopharm Scientific Limited, granting certain commercial and distribution rights for peramivir in Israel.

Mundipharma. In February 2006, we entered into an exclusive, royalty bearing right and license agreement with Mundipharma for the development and commercialization of Mundesine, a PNP inhibitor, for use in oncology (the "Original Agreement"). Under the terms of the Original Agreement, Mundipharma obtained rights to Mundesine in markets across Europe, Asia, and Australasia in exchange for a $10.0 million up-front payment. In addition, Mundipharma contributed $10.0 million of the documented out-of-pocket development costs incurred by us in respect of the current and planned trials as of the effective date of the agreement, and Mundipharma would conduct additional clinical trials at their own cost up to a maximum of $15.0 million.

On November 11, 2011, we entered into the Amended and Restated Agreement with Mundipharma (the "Amended and Restated Agreement"). Under the terms of this Amended and Restated Agreement, Mundipharma obtained worldwide rights to Mundesine in the field of oncology. Mundipharma will control the development and commercialization of Mundesine and assume all future development and commercialization costs. The Amended and Restated Agreement provides for the possibility of future event payments totaling $15.0 million for achieving specified regulatory events for certain indications. In addition, the Amended and Restated Agreement provides that we will receive tiered royalties ranging from mid- to high-single digit percentages of net product sales in each country where Mundesine is sold by Mundipharma. These royalties are subject to downward adjustments based on the then-existing patent coverage and/or the availability of generic compounds in each country. Generally, all payments under the Amended and Restated Agreement are nonrefundable and non-creditable, but they are subject to audit. We licensed forodesine and other PNP inhibitors from AECOM/IRL and will owe sublicense payments to AECOM/IRL on all milestone payments and royalties received by us from Mundipharma.

Mundipharma will also have a right of exclusive negotiations with us for a limited period of time if they initiate negotiations for a specified backup PNP inhibitor. Otherwise, they will be able to participate in the same negotiations

process we enter into with another company for the backup PNP inhibitor. The Amended and Restated Agreement will continue for the commercial life of the licensed products, but may be terminated by either party following an uncured material breach by the other party or in the event the pre-existing third party license with AECOM/IRL expires. It may be terminated by Mundipharma upon 60 days written notice without cause or under certain other conditions as specified in the Amended and Restated Agreement. If Mundipharma terminates the Amended and Restated Agreement, Mundipharma would no longer have any rights in Mundesine and the rights would revert back to us; provided, however, that in the event the we determine to subsequently use the data developed under the Amended and Restated Agreement for development and commercialization of Mundesine in the field of oncology, then we would have to pay Mundipharma 150% of the cost of such data for such use.

Albert Einstein College of Medicine of Yeshiva University and Industrial Research, Ltd. ("AECOM" and "IRL" respectively). In June 2000, we licensed a series of potent inhibitors of PNP from AECOM and IRL, (collectively, the "Licensors"). The lead product candidate from this collaboration is forodesine. We have obtained worldwide exclusive rights to develop and ultimately distribute it, or any other, product candidates that might arise from research on these inhibitors. We have the option to expand our license agreement with the Licensors to include other inventions in the field made by the investigators or employees of the Licensors. We agreed to use commercially reasonable efforts to develop these drugs. In addition, we have agreed to pay certain milestone payments for each licensed product (which range in the aggregate from $1.4 million to almost $4.0 million per indication) for future development of these inhibitors, single digit royalties on net sales of any resulting product made by us, and to share approximately one quarter of future payments received from other third-party partners, if any. In addition, we have agreed to pay annual license fees, which can range from $150,000 to $500,000, that are creditable against actual royalties and other payments due to the Licensors. This agreement may be terminated by us at any time by giving 60 days advance notice or in the event of material uncured breach by the Licensors.

In May 2010, we amended the license agreement through which we obtained worldwide exclusive rights to develop and ultimately distribute any product candidates that might arise from research on a series of PNP inhibitors, including forodesine. Under the terms of the amendment, the Licensors agreed to accept a reduction of one-half in the percentage of future payments received from third-party sub licensees of the licensed PNP inhibitors that must be paid to the Licensors. This reduction does not apply to (i) any milestone payments we may receive in the future under our license agreement with Mundipharma and (ii) royalties received from its sub licensees in connection with the sale of licensed products, for which the original payment rate will remain in effect. The rate of royalty payments to the Licensors based on net sales of any resulting product made by us remains unchanged. At our sole option and subject to certain agreed upon conditions, any future non-royalty payments due to be paid by us to the Licensors under the license agreement may be made either in cash, in shares of our common stock, or in a combination of cash and shares.

On November 17, 2011, we further amended our agreements with the Licensors whereby the Licensors agreed to accept a reduction of one-half in the percentage of Net Proceeds (as defined in the license agreement) received by us under our Amended and Restated Agreement with Mundipharma that will be paid to AECOM/IRL.

On June 19, 2012, we further amended our agreements with the Licensors whereby the parties clarified the definition of the field with respect to PNP inhibition and the Licensors agreed to grant an exclusive worldwide license of galidesivir to us for any antiviral use.

The University of Alabama at Birmingham ("UAB"). We currently have agreements with UAB for influenza neuraminidase and complement inhibitors. Under the terms of these agreements, UAB performed specific research for us in return for research payments and license fees. UAB has granted us certain rights to any discoveries in these areas resulting from research developed by UAB or jointly developed with us. We have agreed to pay single digit royalties on sales of any resulting product and to share in future payments received from other third-party partners. We have completed the research under the UAB agreements. These two agreements have initial 25-year terms, are automatically renewable for five-year terms throughout the life of the last patent and are terminable by us upon three months' notice and by UAB under certain circumstances. Upon termination both parties shall cease using the other parties' proprietary and confidential information and materials, the parties shall jointly own joint inventions and UAB shall resume full ownership of all UAB licensed products. There is currently no activity between us and UAB on these agreements, but when we license this technology, such as in the case of the Shionogi and Green Cross agreements, or commercialize products related to these programs, we will owe sublicense fees or royalties on amounts it receives.

Government Contracts

National Institute of Allergy and Infectious Diseases ("NIAID/HHS"). In September 2013, NIAID/HHS contracted with us for the development of galidesivir as a treatment for Marburg, and subsequently, Ebola virus disease. NIAID/HHS, part of the National Institutes of Health, made an initial award of $5.0 million to us. All options under this contract have been awarded and the total contract value is $39.5 million. The goals of this contract, including amendments, are to file IND applications for i.v. and i.m. galidesivir for the treatment of Marburg virus disease and other hemorrhagic fever viruses, to study galidesivir as a treatment for Ebola virus disease and to conduct a Phase 1 human clinical trial.

U.S. Department of Health and Human Services ("BARDA/HHS"). On March 31, 2015, we announced that BARDA/HHS awarded us a contract for the continued development of galidesivir as a potential treatment for diseases caused by RNA pathogens, including filoviruses. This BARDA/HHS contract has a potential value of $39.1 million if all contract options are exercised. As of December 31, 2017, a total of $20.6 million has been awarded under exercised options within this contract.

The contracts with NIAID/HHS and BARDA/HHS are cost-plus-fixed-fee contracts. That is, we are entitled to receive reimbursement for all costs incurred in accordance with the contracts provisions that are related to the development of peramivir and galidesivir plus a fixed fee, or profit. NIAID/HHS and BARDA/HHS will make periodic assessments of progress and the continuation of the contract is based on our performance, the timeliness and quality of deliverables, and other factors. The government has rights under certain contract clauses to terminate these contracts. These contracts are also terminable by the government at any time for breach or without cause.

Patents and Proprietary Information

Our success will depend in part on our ability to obtain and enforce patent protection for our products, methods, processes and other proprietary technologies, preserve our trade secrets, and operate without infringing on the proprietary rights of other parties, both in the United States and in other countries. We own or have rights to certain proprietary information, proprietary technology, issued and allowed patents and patent applications which relate to compounds we are developing. We actively seek, when appropriate, protection for our products, proprietary technology and proprietary information by means of U.S. and foreign patents, trademarks and contractual arrangements. In addition, we rely upon trade secrets and contractual arrangements to protect certain of our proprietary information, proprietary technology and products.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. Our ability to maintain and solidify our proprietary position for our technology will depend on our success in obtaining effective patent claims and enforcing those claims once granted. We do not know whether any of our patent applications or those patent applications that we license will result in the issuance of any patents. Our issued patents and those that may issue in the future, or those licensed to us, may be challenged, invalidated, rendered unenforceable or circumvented, which could limit our ability to stop competitors from marketing related products or the length of term of patent protection that we may have for our products. In addition, the rights granted under any issued patents may not provide us with competitive advantages against competitors with similar compounds or technology. Furthermore, our competitors may independently develop similar technologies or duplicate any technology developed by us in a manner that does not infringe our patents or other intellectual property. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that, before any of our product candidates or those developed by our partners can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby reducing any advantage of the patent.

As of December 31, 2017, we have been issued approximately 16 U.S. patents that expire between 2018 and 2034 and that relate to our HAE program compounds, neuraminidase inhibitor compounds, BSAV compounds and PNP compounds. We have licensed a number of compounds protected by certain composition of matter patents from AECOM and IRL, plus additional manufacturing patents, totaling 7 additional U.S. patents that expire between 2020 and 2029. Additionally, we have approximately 11 Patent Cooperation Treaty or U.S. patent applications pending related to HAE program compounds, neuraminidase inhibitor compounds, BSAV compounds, PNP compounds and FOP program compounds. Our pending applications may not result in issued patents, our patents may not cover the products of interest or may not be enforceable in all, or any jurisdictions and our patents may not provide us with sufficient protection against competitive products or otherwise be commercially viable. After expiration of composition of matter patents for our products and product candidates, we may rely on data exclusivity, or in some cases, method of use patents. The enforceability of these patents varies from jurisdiction to jurisdiction and may not be allowed or enforceable in some territories where we may seek approval. We may not have the funds to continue patent prosecution or to defend all of our existing patents in our current patent estate and may selectively abandon patents or patent families worldwide or in certain territories.

Our success is also dependent upon the skills, knowledge and experience of our scientific and technical personnel, none of which is patentable. To help protect our rights, we require all employees, consultants, advisors and partners to enter into confidentiality agreements, which prohibit the disclosure of confidential information to anyone outside of

BioCryst and, where possible, require disclosure and assignment to us of their ideas, developments, discoveries and inventions. These agreements may not provide adequate protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure or the lawful development by others of such information.

Competition

The pharmaceutical and biotechnology industries are intensely competitive. Many companies, including biotechnology, chemical and pharmaceutical companies, are actively engaged in activities similar to ours, including research, development, and commercialization of drugs for the treatment of rare medical conditions. Many of these companies have substantially greater financial and other resources, larger research and development staffs, and more extensive commercial and manufacturing organizations than we do. In addition, many have considerable experience in preclinical testing, clinical trials and other regulatory approval procedures. In addition, there are also academic institutions, governmental agencies and other research organizations who conduct research in areas in which we are working. We expect to encounter significant competition for any of the pharmaceutical products we plan to develop. Companies that successfully complete clinical trials, obtain required regulatory approvals and commence commercial marketing and sales of their products may achieve a significant competitive advantage.

Antivirals: The pharmaceutical market for products that prevent or treat influenza is very competitive. Key competitive factors for RAPIVAB (peramivir injection) include, among others, efficacy, ease of use, safety, price and cost-effectiveness, storage and handling requirements and reimbursement. A number of neuraminidase inhibitors are currently available in the U.S. and/or other counties, including Japan, for the prevention or treatment of influenza, including seasonal flu vaccines and F. Hoffmann-La Roche Ltd.'s ("Roche") TAMIFLU® (oseltamivir), generic oseltamivir, GlaxoSmithKline plc's ("GSK") RELENZA® and Daiichi Sankyo Co., Ltd.'s INAVIR®. In addition, FUJIFILM Corporation's favipiravir, a polymerase inhibitor, is approved in Japan. Roche's neuraminidase inhibitor is also approved for prophylaxis of influenza.

In addition to these companies with neuraminidase inhibitors, there are other companies working to develop additional antiviral drugs to be used against various strains of influenza. Currently, there are a number of other companies developing potential new influenza therapies. Various government entities throughout the world are offering incentives, grants and contracts to encourage additional investment into preventative and therapeutic agents against influenza, which may have the effect of further increasing the number of our competitors and/or providing advantages to certain competitors.

Galidesivir is a product candidate in our BSAV research program and is currently being developed under contracts with NIAID/HHS and BARDA/HHS. The objective of our BSAV program is to develop galidesivir as a broad-spectrum therapeutic for viruses that pose a threat to national health and security. The U.S. Government is investing in a number of programs intended to address gaps in its medical countermeasure plan. Therapeutic products with potentially promising data to treat Ebola include FUJIFILM Corporation's favipiravir (polymerase inhibitor) and Mapp Biopharmaceutical, Inc.'s ZMapp (antibody-based). ZMapp has been used in Ebola patients. Gilead Sciences, Inc announced in October 2015 that it had provided the investigational compound, GS-5734, to two patients with Ebola for compassionate use.

HAE: HAE is an autosomal dominant disease characterized by painful, unpredictable, recurrent attacks of inflammation affecting the hands, feet, face, abdomen, urogenital tract, and the larynx. The inflammation can be disfiguring, debilitating, or in the case of laryngeal attacks, life-threatening. Prevalence for HAE is uncertain but is estimated to be approximately 1 case per 50,000 persons without known differences among ethnic groups and is caused by deficient (Type I) or dysfunctional (Type II) levels of C1-Inhibitor ("C1-INH"), a naturally occurring molecule that is known to inhibit kallikrein, bradykinin, and other serine proteases in the blood. If left untreated, HAE can result in a mortality rate as high as 40% primarily due to upper airway obstruction. There are a number of licensed therapies for HAE, including the following:

- C1-INH therapy is available as an acute therapy (Berinert®) and as a prophylactic therapy (Haegarda® and Cinryze®). These therapies are available subcutaneously and intravenously and work by replacing the missing or malfunctioning C1-INH protein in patients. Recominant C1-INH (Ruconest®) is also available as an acute therapy.
- Kallikrein Inhibition - Kalbitor® (ecallantide) is a specific recombinant plasma kallikrein inhibitor that halts the production of bradykinin and can be dosed subcutaneously in an inpatient setting.
- Bradykinin receptor antagonist - Firazyr® (icatibant) is a competitive antagonist of the bradykinin B2 receptor. Firazyr is approved for the treatment of acute attacks and is administered by subcutaneous administration.
- Other medications - Prophylactic administration of synthetic attenuated androgens (generically available as danazol or stanozolol) has been utilized to reduce the frequency or severity of attacks. However, long-term use of danazol or stanozolol may result in virilization and arterial hypertension. Six-month liver function tests, annual lipid profiles, and biennial hepatic ultrasound are recommended because these medications increase production of C1-INH in the liver.

In addition to BCX7353 there are a number of other HAE therapies in clinical development. These include SHP616, a prophylactic plasma derived C1-INH delivered by subcutaneous injection developed by Shire Plc ("Shire"), with

positive top line Phase 3 pivotal data presented in September 2017; lanadelumab (SHP643, DX2930), a monoclonal antibody administered by subcutaneous injection for prophylactic treatment of HAE developed by Shire, which has completed Phase 3 trials and has been submitted to the FDA for review; Ruconest, developed by Pharming Group N.A. for routine prophylaxis of HAE, for which the FDA has accepted review of a Supplemental Biologics License Application ("sBLA") with an anticipated action date of September 21, 2018; two oral kallikrein inhibitors being developed by Kalvista Pharmaceuticals, Inc. that have entered Phase 1 trials; and oral kallikrein inhibitors in preclinical development by Attune Pharmaceuticals, Inc. and Verseon Corporation. CSL's CSL312, an anti factor mAb (monoclonal antibody), completed Phase 1 trials in November 2017 and is expected to start Phase 2 trials in 2018 in HAE patients. Ionis's IONISPKKrx, a RNA-targeted antisense drug to inhibit prekallikrein for prophylactic treatment of HAE, is currently in in Phase 1 trials with an anticipated completion date in June 2018. Adverum Biotechnologies, Inc.'s ADVM-053, an AAV (adeno-associated virus) expressing C1-esterase inhibitor, is expected to file an IND in the second half of 2018. Additionally, Arrowhead Pharmaceuticals, Inc. is in early development of ARO-F12, an RNAi (RNA interference) in early development for the treatment of HAE and thromboembolic disorders.

FOP: FOP is a rare, severely disabling condition characterized by the irregular formation of bone outside the normal skeleton, also known as heterotopic ossification ("HO"). HO can occur in muscles, tendons and soft tissue. FOP patients progressively become bound by this irregular ossification, with restricted movement and fused joints, resulting in deformities and premature mortality. There are currently no approved treatments for FOP.

Other FOP therapies in clinical development include Clementia Pharmaceuticals Inc.'s palovarotene, an oral, retinoic acid gamma receptor agonist, currently in Phase 3 trials (initiated December 2017); Regeneron Pharmaceuticals Inc.'s REGN2477, an i.v. anti-activin antibody in Phase 2 trials (initiated November 2017); and several companies with programs in pre-clinical development, including Blueprint Medicines Corporation, with its oral ALK2 kinase inhibitor, La Jolla Pharmaceutical Company, with three compounds (two ALK2 inhibitors and LJPC-6417, a bone morphogenetic protein receptor type I antagonist), and Daiichi-Sankyo Co., Ltd, which is collaborating with Saitama Medical University on an ALK2 inhibitor funded by Japan Agency for Medical Research.

In order to compete successfully in these and other therapeutic areas, we must develop proprietary positions in patented drugs for therapeutic markets that have not been satisfactorily addressed by conventional research strategies and, in the process, expand our expertise in structure-based drug design. Our product candidates, even if successfully tested and developed, may not be adopted by physicians over other products and may not offer economically feasible alternatives to other therapies.

Research and Development

We initiated our research and development activities in 1986. We have assembled a scientific research staff with expertise in a broad base of advanced research technologies including protein biochemistry, X-ray crystallography, chemistry and pharmacology. Our research facilities, located in Birmingham, Alabama, include protein biochemistry and organic synthesis laboratories, testing facilities, X-ray crystallography, computer and graphics equipment and facilities to make product candidates on a small scale for early stage clinical trials. During the years ended December 31, 2017, 2016 and 2015, our research and development expenses were $67.0 million, $61.0 million, and $72.8 million respectively.

Compliance

We conduct our business in an ethical, fair, honest and lawful manner. We act responsibly, respectfully and with integrity in our relationships with patients, health care professionals, collaborators, governments, regulatory entities, stockholders, suppliers and vendors.

In order to ensure compliance with applicable laws and regulations, our Chief Financial Officer, General Counsel and Vice President of Human Resources oversee compliance training, education, auditing and monitoring; enforce disciplinary guidelines for any infractions of our corporate polices; implement new policies and procedures; respond to any detected issues; and undertake corrective action procedures. Our controls address compliance with laws and regulations that govern public pharmaceutical companies including, but not limited to, the following: federal and state law, such as the Sarbanes-Oxley Act of 2002 and the U.S. Foreign Corrupt Practices Act of 1977; NASDAQ listing requirements; the regulations of the Financial Industry Regulatory Authority; the Securities and Exchange Commission (“SEC”); the FDA; and the United States Department of Health and Human Services. Our standard operating procedures are designed to provide a framework for corporate governance in accordance with ethical standards and best legal practices.

Government Regulation

The FDA regulates the pharmaceutical and biotechnology industries in the U.S., and our product candidates are subject to extensive and rigorous domestic government regulations prior to commercialization. The FDA regulates,

among other things, the development, testing, manufacture, safety, efficacy, record-keeping, labeling, storage, approval, advertising, promotion, sale and distribution of pharmaceutical products. In foreign countries, our products are also subject to extensive regulation by foreign governments. These government regulations will be a significant factor in the production and marketing of any pharmaceutical products that we develop. Failure to comply with applicable FDA and other regulatory requirements at any stage during the regulatory process may subject us to sanctions, including:

- delays;
- warning letters;
- fines;
- product recalls or seizures;
- injunctions;
- penalties;
- refusal of the FDA to review pending market approval applications or supplements to approval applications;
- total or partial suspension of production;
- civil penalties;
- withdrawals of previously approved marketing applications; and
- criminal prosecutions.

The regulatory review and approval process is lengthy, expensive and uncertain. Before obtaining regulatory approvals for the commercial sale of any products, we or our partners must demonstrate that our product candidates are safe and effective for use in humans. The approval process takes many years, substantial expenses may be incurred and significant time may be devoted to clinical development.

Before testing potential product candidates in humans, we carry out laboratory and animal studies to determine safety and biological activity. After completing preclinical trials, we must file an IND, including a proposal to begin clinical trials, with the FDA. Thirty days after filing an IND, a Phase 1 human clinical trial can start, unless the FDA places a hold on the trial.

Clinical trials to support a NDA are typically conducted in three sequential phases, but the phases may overlap.

Phase 1—During Phase 1, the initial introduction of the drug into healthy volunteers, the drug is tested to assess metabolism, pharmacokinetics and pharmacological actions and safety, including side effects associated with increasing doses.

Phase 2—Phase 2 usually involves trials in a limited patient population to: (1) assess the efficacy of the drug in specific, targeted indications; (2) assess dosage tolerance and optimal dosage; and (3) identify possible adverse effects and safety risks.

Phase 3 (pivotal)—If a compound is found to be potentially effective and to have an acceptable safety profile in Phase 2 evaluations, Phase 3 clinical trials, also called pivotal studies, major studies or advanced clinical trials, are undertaken to further demonstrate clinical efficacy and to further test for safety within an expanded patient population at geographically dispersed clinical trial sites. In general, the FDA requires that at least two adequate and well-controlled Phase 3 clinical trials be conducted.

Initiation and completion of the clinical trial phases are dependent on several factors including things that are beyond our control. For example, the clinical trials cannot begin at a particular site until that site receives approval from its Institutional Review Board (“IRB”), which reviews the protocol and related documents. This process can take from several weeks to several months. In addition, clinical trials are dependent on patient enrollment, but the rate at which patients enroll in the study depends on:

- willingness of investigators to participate in a study;
- ability of clinical sites to obtain approval from their IRB;
- the availability of the required number of eligible subjects to be enrolled in a given trial;

- the availability of existing or other experimental drugs for the disease we intend to treat;
- the willingness of patients to participate; and
- the patients meeting the eligibility criteria.

Delays in planned patient enrollment may result in increased expense and longer development timelines.

After successful completion of the required clinical testing, generally an NDA is submitted. Upon receipt of the NDA, the FDA will review the application for completeness. Within 60 days, the FDA will determine if the application is sufficiently complete to warrant full review and will consider the application “filed” at that time. Also upon receipt of the application, the FDA will assign a review priority to the application. Priority review applications are usually reviewed within 6 months after the NDA is “filed”; standard review applications are usually reviewed within 10 months after the NDA is “filed”. The FDA will usually refer NDAs for new molecular entities to an appropriate advisory committee for review and evaluation in regards to providing a recommendation as to whether the application should be approved. The FDA is not bound to follow the recommendation of an advisory committee.

Following the review of the application, which may include requests for additional information from the sponsor and results from inspections of manufacturing and clinical sites, the FDA will issue an “action letter” on the application. The action letter will either be an “approval letter,” in which case the product may be lawfully marketed in the United States, or a “complete response letter.” A complete response letter will state that the FDA cannot approve the NDA in its present form and, usually, will describe all of the specific deficiencies that the FDA has identified in the application. The complete response letter, when possible, will include the FDA’s recommended actions to place the application in a condition for approval. Deficiencies can be minor (e.g., labeling changes) or major (e.g., requiring additional clinical trials). A complete response letter may also be issued before the FDA conducts the required facility inspection and/or reviews labeling, leaving the possibility that additional deficiencies in the original NDA could be subsequently cited. An applicant receiving a complete response letter is permitted to resubmit the NDA addressing the identified deficiencies (in which case a new two or six-month review cycle will begin), or withdraw the NDA. The FDA may consider a failure to take action within one year of a complete response letter to be a request to withdraw, unless the applicant has requested an extension of time in which to resubmit. If the FDA approves an NDA, the marketing of the product will be limited to the particular disease states and conditions of use that are described in the product label.

We and all of our contract manufacturers are also required to comply with the applicable FDA current Good Manufacturing Practice, or cGMP, regulations during clinical development and to ensure that the product can be consistently manufactured to meet the specifications submitted in an NDA. The cGMP regulations include requirements relating to product quality as well as the corresponding maintenance of records and documentation. Manufacturing facilities must be approved by the FDA before they can be used to manufacture our products. Based on an inspection, the FDA determines whether manufacturing facilities are in compliance with applicable regulations. Manufacturing facilities in non-United States countries that are utilized to manufacture drugs for distribution into the United States are also subject to inspection by the FDA. Additionally, failure to comply with local regulatory requirements could affect production and availability of product in relevant markets.

Human Resources

As of January 31, 2018, we had approximately 85 employees, of whom approximately 60 were engaged in the research and development function of our operations. Our research and development staff, approximately 25 of whom hold Ph.D. or M.D. degrees, have diversified experience in biochemistry, pharmacology, X-ray crystallography, synthetic organic chemistry, computational chemistry, medicinal chemistry, clinical development and regulatory affairs.

Our employees are not represented by any collective bargaining agreements, and we have never experienced a work stoppage. Employees are required to execute confidentiality and assignment of intellectual property agreements. We consider our relations with our employees to be satisfactory.

Available Information

Our website address is www.biocryst.com. We make available, free of charge, at our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. We also make available at our website copies of our audit committee charter, compensation committee charter, corporate governance and nominating committee charter and our code of business conduct, which applies to all our employees as well as the members of our Board of Directors. Any amendment to, or waiver from, our code of business conduct will be posted on our website.

Financial Information

For information related to our revenues, profits, net loss and total assets, in addition to other financial information, please refer to the Financial Statements and Notes to Financial Statements contained in this Annual Report. Financial information about revenues derived from foreign countries is included in Note 1 to the Financial Statements contained

in this Annual Report.

ITEM 1A. ***RISK FACTORS***

An investment in our stock involves risks. You should carefully read this entire report and consider the following uncertainties and risks, which may adversely affect our business, financial condition or results of operations, along with all of the other information included in our other filings with the Securities and Exchange Commission, before deciding to buy our common stock.

Risks Relating to the Mergers

Completion of the proposed combination with Idera is subject to conditions and if these conditions are not satisfied or waived, the Mergers will not be completed.

On January 21, 2018, we announced that we had entered into the Merger Agreement with Idera, Holdco, Merger Sub A and Merger Sub B, pursuant to which (i) Merger Sub A will be merged with and into Idera, with Idera surviving as a wholly-owned subsidiary of Holdco, and (ii) Merger Sub B will be merged with and into BioCryst, with BioCryst surviving as a wholly-owned subsidiary of Holdco. The consummation of the Mergers is subject to customary closing conditions, including (i) the adoption of the Merger Agreement by the affirmative vote of the holders of a majority of all outstanding shares of our capital stock entitled to vote thereon, (ii) the adoption of the Merger Agreement by the affirmative vote of the holders of a majority of all outstanding shares of Idera common stock entitled to vote thereon, (iii) the absence of any adverse law or order promulgated, entered, enforced, enacted or issued by any governmental entity that prohibits, restrains or makes illegal the consummation of the Mergers, (iv) the shares of Holdco common stock to be issued in the Mergers being approved for listing on the NASDAQ Global Select Market, (v) the expiration or termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (the "HSR Act") and other material government approvals, (vi) the SEC having declared effective the Form S-4 Registration Statement of Holdco that will contain the joint proxy statement/prospectus of the parties in connection with the Mergers, (vii) subject to certain materiality exceptions, the accuracy of certain representations and warranties of each of Idera and BioCryst contained in the Merger Agreement and the compliance by each party with the covenants contained in the Merger Agreement, (viii) the receipt of certain opinions from legal counsel regarding the intended tax treatment of the Mergers and (ix) the absence of a material adverse effect with respect to each of Idera and BioCryst. On February 15, 2018, the Federal Trade Commission notified us that our request for early termination of the waiting period under the HSR Act had been granted.

The failure to satisfy all of the required conditions could delay the completion of the Mergers by a significant period of time or prevent it from occurring. Any delay in completing the Mergers could cause us to not realize some or all of the benefits that we expect to achieve if the Mergers are successfully completed within the expected timeframe.

If we are unable to complete the proposed Mergers, we may have incurred substantial expense and diverted significant management time and resources from our ongoing business. In addition, if the Merger Agreement is terminated under certain circumstances specified in the Merger Agreement, we may be required to pay Idera a termination fee of $25 million or a fixed expense reimbursement amount of $6 million. There can be no assurance that the conditions to closing of the Mergers will be satisfied or waived or that the Mergers will be completed.

Combining Idera and BioCryst may be more difficult, costly or time consuming than expected and the anticipated benefits and cost savings of the proposed Mergers may not be realized.

We are operating and, until the completion of the Mergers, will continue to operate independently of Idera. The success of the Mergers, including anticipated benefits and cost savings, will depend, in part, on our ability to successfully combine and integrate the businesses. It is possible that the pendency of the Mergers and/or the integration process could result in the loss of key employees, higher than expected costs, diversion of management attention, the disruption of our ongoing businesses or inconsistencies in standards, controls, procedures and policies that adversely affect the combined company's ability to maintain relationships with patients, doctors, vendors and employees or to achieve the anticipated benefits and cost savings of the Mergers.

We will incur transaction fees, including legal, regulatory and other costs associated with closing the transaction, as well as expenses relating to formulating and implementing integration plans, including facilities and systems consolidation costs and employment-related costs. We continue to assess the magnitude of these costs, and additional unanticipated costs may be incurred in the Mergers and the integration of the two companies' businesses. While we expect that the elimination of duplicative costs as well as the realization of other efficiencies related to the integration of the businesses should allow us to offset integration-related costs over time, this net benefit may not be achieved in the near term, at the levels anticipated, or at all. As part of the integration process, we may also attempt to divest certain assets of the combined company, which may not be possible on favorable terms, or at all, or if successful, may change the profile of the combined company. If we experience difficulties with the integration process, the anticipated benefits of the Mergers may not be realized fully or at all, or may take longer to realize than anticipated.

Risks Relating to Our Business

We have incurred losses since our inception, expect to continue to incur such losses, and may never be profitable.

Since our inception, we have not achieved sustained profitability. We expect to incur additional losses for the foreseeable future, and our losses could increase as our research and development efforts progress. We expect that such losses will fluctuate from quarter to quarter and losses and fluctuations may be substantial.

To become profitable, we, or our collaborative partners, must successfully manufacture and develop product candidates, receive regulatory approval, and successfully commercialize and/or enter into profitable agreements with other parties. It could be several years, if ever, before we receive significant revenue from any current or future license agreements or revenues directly from product sales.

Because of the numerous risks and uncertainties associated with developing our product candidates and their potential for commercialization, we are unable to predict the extent of any future losses. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. If we are unable to achieve and sustain profitability, the market value of our common stock will likely decline.

Our success depends upon our ability to advance our products through the various stages of development, especially through the clinical trial process.

To receive the regulatory approvals necessary for the sale of our product candidates, we or our partners must demonstrate through preclinical studies and clinical trials that each product candidate is safe and effective. The development process and related regulatory process are complex and uncertain. Because of the cost and duration of clinical trials, we may decide to discontinue development of product candidates that are unlikely to show good results in the clinical trials, unlikely to help advance a product to the point of a meaningful collaboration, or unlikely to have reasonable commercial potential. We may suffer significant setbacks in pivotal pre-clinical studies and clinical trials (e.g. galidesivir, BCX7353, other kallikrein inhibitors, our ALK2 inhibitors and our other rare disease product candidates), even after earlier clinical trials show promising results. The development of our product candidates, including our clinical trials, may not be adequately designed or executed, which could affect the potential outcome and analysis of study results. Any of our product candidates may produce undesirable side effects in humans. The pre-clinical and clinical data from our product candidates could cause us or regulatory authorities to interrupt, delay, modify or halt preclinical or clinical trials of a product candidate. Undesirable or inconclusive data or side effects in humans could also result in the FDA or foreign regulatory authorities refusing to approve the product candidate for any targeted indications. In addition, the FDA or other regulatory agencies may determine that study data from our product candidates necessitates additional studies or study designs which differ from our planned development strategy, and regulatory agencies may also require patient monitoring and testing or may implement restrictions or other conditions on our development activities, any of which could materially impact the cost and timing of our planned development strategy. We, our partners, the FDA or foreign regulatory authorities may suspend or terminate clinical trials at any time if we or they believe the trial participants face unacceptable health risks. Clinical trials may fail to demonstrate that our product candidates are safe or effective and have acceptable commercial viability. Regulatory authorities may interrupt, delay or halt clinical trials for a product candidate for any number of reasons.

Our ability to successfully complete clinical trials is dependent upon many factors, including but not limited to:

- our ability to find suitable clinical sites and investigators to enroll patients;
- the ability to maintain contact with patients to provide complete data after treatment;
- our product candidates may not prove to be either safe or effective;
- clinical protocols or study procedures may not be adequately designed or followed by the investigators;
- formulation improvements may not work as expected, which could negatively impact commercial demand for our product candidates;
- manufacturing or quality control problems could affect the supply of product candidates for our trials; and
- delays or changes in our planned development strategy, the regulations or guidelines, or other unexpected conditions or requirements of government agencies.

Clinical trials are lengthy and expensive. We or our partners incur substantial expense for, and devote significant time to, preclinical testing and clinical trials, yet we cannot be certain that the tests and trials will ever result in the commercial sale of a product. For example, clinical trials require adequate supplies of drug and sufficient patient enrollment. Lack of adequate drug supply or delays in patient enrollment, including for APeX-2, APeX-S and ZENITH-1, can result in increased costs and longer development times. Even if we or our partners successfully complete clinical trials for our product candidates, we or our partners might not file the required regulatory submissions in a timely manner and may not receive regulatory approval for the product candidates.

We focus on rare diseases, which may create additional risks and challenges.

Because we focus on developing drugs as treatments for rare diseases, we may seek orphan drug, breakthrough therapy or fast track designations for our product candidates in the United States or the equivalent designations elsewhere in the world. Often, regulatory agencies have broad discretion in determining whether or not to grant such designations. We cannot guarantee that we will be able to receive orphan drug status from the FDA or equivalent regulatory designations elsewhere. We also cannot guarantee that we will obtain breakthrough therapy or fast track designation, which may provide certain potential benefits such as more frequent meetings with the FDA to discuss the development plan, intensive guidance on an efficient drug development program, and potential eligibility for rolling review or priority review. Even if we are successful in obtaining any such designation by the FDA or other regulatory agency for our product candidates, such designations may not lead to faster development or regulatory review or approval, and it does not increase the likelihood that our product candidates will receive marketing approval. We may not be able to obtain or maintain such designations for our product candidates, and our competitors may obtain these designations for their product candidates, which could impact our ability to develop and commercialize our product candidates or compete with such competitors, which may adversely impact our business, financial condition or results of operations.

Although we have received Sakigake designation for BCX7353 in Japan, we may not experience a faster development, review or approval process compared to the conventional process.

Our clinical trials may not adequately show that our product candidates are safe or effective.

Progression of our product candidates through the clinical development process is dependent upon our trials indicating our product candidates have adequate safety and efficacy in the patients being treated by achieving pre-determined safety and efficacy endpoints according to the clinical trial protocols. Failure to achieve any of these endpoints in any of our programs, including BCX7353, galidesivir and our other rare disease product candidates, could result in delays in our trials or require the performance of additional unplanned trials. This could result in delays in the development of our product candidates and could result in significant unexpected costs or the termination of programs.

If our development collaborations with third parties, such as our development partners and contract research organizations, fail, the development of our product candidates will be delayed or stopped.

We rely heavily upon third parties for many important stages of our product candidate development, including but not limited to:

- discovery of compounds that cause or enable biological reactions necessary for the progression of the disease or disorder, called enzyme targets;
- licensing or designing of enzyme inhibitors for development as product candidates;
- execution of certain preclinical studies and late-stage development for our compounds and product candidates;
- management of our clinical trials, including medical monitoring and data management;
- execution of additional toxicology studies that may be required to obtain approval for our product candidates;
- formulation improvement strategies and methods; and
- manufacturing the starting materials and drug substance required to formulate our products and the product candidates to be used in our clinical trials, toxicology studies and any potential commercial product.

Our failure to engage in successful collaborations at any one of these stages would greatly impact our business. If we do not license enzyme targets or inhibitors from academic institutions or from other biotechnology companies on acceptable terms, our drug development efforts would suffer. Similarly, if the contract research organizations that conduct our initial or late-stage clinical trials, conduct our toxicology studies, manufacture our starting materials, drug substance and product candidates or manage our regulatory function breached their obligations to us or perform their services inconsistent with industry standards and not in accordance with the required regulations, this would delay or prevent both the development of our product candidates and the availability of any potential commercial product.

If we lose our relationship with any one or more of these parties, we could experience a significant delay in both identifying another comparable provider and then contracting for its services. We may be unable to retain an alternative provider on reasonable terms, if at all. Even if we locate an alternative provider, it is likely that this provider may need additional time to respond to our needs and may not provide the same type or level of service as the original provider. In addition, any provider that we retain will be subject to applicable FDA current Good Laboratory Practices (“cGLP”), current Good Manufacturing Practices (“cGMP”) and current Good Clinical Practices (“cGCP”), and comparable foreign standards. We do not have control over compliance with these regulations by these providers. Consequently, if these practices and standards are not adhered to by these providers, the development and commercialization of our product candidates could be delayed. If any of the foregoing risks are realized, our business, financial condition and results of operations could be materially adversely affected.

Because we have limited manufacturing experience, we depend on third-party manufacturers to manufacture our product, product candidates and the materials for our product candidates. Often, especially early in the development and commercialization process, we have only one source for manufacturing. If we cannot rely on existing third-party manufacturers, we will be required to incur significant costs and potential delays in finding new third-party manufacturers.

We have limited manufacturing experience and only a small scale manufacturing facility. We currently rely upon a very limited number of third-party manufacturers to manufacture the materials required for our product, product candidates and most of the preclinical and clinical quantities of our product candidates. We depend on these third-party manufacturers to perform their obligations in a timely manner and in accordance with applicable governmental regulations. Our third-party manufacturers, which may be the only manufacturer we have engaged for a particular product, may encounter difficulties with meeting our requirements, including but not limited to problems involving:

- inconsistent production yields;
- product liability claims or recalls of commercial product;
- difficulties in scaling production to commercial and validation sizes;
- interruption of the delivery of materials required for the manufacturing process;
- scheduling of plant time with other vendors or unexpected equipment failure;

- potential catastrophes that could strike their facilities or have an effect on infrastructure;
- potential impurities in our drug substance or products that could affect availability of product for our clinical trials or future commercialization;
- poor quality control and assurance or inadequate process controls; and
- lack of compliance or cooperation with regulations and specifications or requests set forth by the FDA or other foreign regulatory agencies, particularly associated with peramivir, BCX7353, galidesivir and our early stage compounds.

These contract manufacturers may not be able to manufacture the materials required for our product candidates at a cost or in quantities necessary to make them commercially viable. We also have no control over whether third-party manufacturers breach their agreements with us or whether they may terminate or decline to renew agreements with us. To date, our third-party manufacturers have met our manufacturing requirements, but they may not continue to do so. Furthermore, changes in the manufacturing process or procedure, including a change in the location where the drug is manufactured or a change of a third-party manufacturer, may require prior review and approval in accordance with the FDA's cGMP and comparable foreign requirements. This review may be costly and time-consuming and could delay or prevent the launch of a product. The FDA or similar foreign regulatory agencies may at any time implement new standards, or change their interpretation and enforcement of existing standards for manufacture, packaging or testing of products. If we or our contract manufacturers are unable to comply, we or they may be subject to regulatory action, civil actions or penalties any of which could be costly to the Company and could result in a delay or shortage of product.

If we are unable to maintain current manufacturing or other contract relationships, or enter into new agreements with additional manufacturers on commercially reasonable terms, or if there is poor manufacturing performance or failure to comply with any regulatory agency on the part of any of our third-party manufacturers, we may not be able to complete development of, seek timely approval of, or market, our product candidates.

Our raw materials, drug substances, and product candidates are manufactured by a limited group of suppliers, including some at a single facility. If any of these suppliers were unable to produce these items, this could significantly impact our supply of product candidate material for further preclinical testing and clinical trials.

We face intense competition, and if we are unable to compete effectively, the demand for our products, if any, may be reduced.

The biotechnology and pharmaceutical industries are highly competitive and subject to rapid and substantial technological change. There are many companies seeking to develop products for the same indications that we currently target. Our competitors in the United States and elsewhere are numerous and include, among others, major multinational pharmaceutical and chemical companies and specialized biotechnology firms. Most of these competitors have greater resources than we do, including greater financial resources, larger research and development staffs and more experienced marketing and manufacturing organizations. In addition, most of our competitors have greater

experience than we do in conducting clinical trials and obtaining FDA and other regulatory approvals. Accordingly, our competitors may succeed in obtaining FDA or other regulatory approvals of product candidates more rapidly than we do. Companies that complete clinical trials, obtain required regulatory approvals, and commence commercial sale of their drugs before we do may achieve a significant competitive advantage, including patent and FDA exclusivity rights that would delay our ability to market products. We face, and will continue to face, competition in the licensing of potential product candidates for desirable disease targets, licensing of desirable product candidates, and development and marketing of our product candidates from academic institutions, government agencies, research institutions and biotechnology and pharmaceutical companies. Competition may also arise from, among other things:

- other drug development technologies;
- methods of preventing or reducing the incidence of disease, including vaccines; and
- new small molecule or other classes of therapeutic agents.

Developments by others may render our product candidates or technologies obsolete or noncompetitive.

We are performing research on or developing products for the treatment of several rare disorders, including HAE and FOP, as well as developing broad spectrum antivirals for use as medical countermeasures. We expect to encounter significant competition for any of the pharmaceutical products we are developing and plan to develop. Companies that complete clinical trials, obtain required funding or government support, obtain required regulatory approvals and commence commercial sales or stockpiling orders of their products before their competitors may achieve a significant competitive advantage. Such is the case with the current neuraminidase inhibitors marketed by GSK and Roche for influenza; CINRYZE®, KALBITOR® and FIRAZYR®, marketed by Shire for HAE; BERINERT® and HAEGARDA® marketed by CSL for HAE; and RUCONEST® marketed by Pharming for HAE.

Further, several pharmaceutical and biotechnology firms have announced efforts in HAE and in other therapeutic areas where we have discovery and development efforts ongoing. Notably, prophylactic treatment for HAE is becoming increasingly competitive with the recent approval of CSL's HAEGARDA, Shire's positive Phase 3 data for the monoclonal antibody, lanadelumab, and Pharming's completion of a Phase 2 HAE prophylaxis trial and filing of an sBLA for RUCONEST. Additionally, Kalvista Pharmaceuticals, Inc. (KVD818) and Attune Pharmaceuticals, Inc. (ATN-249) have oral candidates for HAE prophylaxis in Phase 1 development. Therapeutic products with potentially promising data to treat Ebola include Mapp Biopharmaceutical, Inc.'s ZMapp (antibody-based) and Gilead Sciences, Inc.'s product currently under development (small molecule), both of which have been used in Ebola infected patients. Shionogi also recently announced positive Phase 3 data for S033188, an oral treatment for influenza. For FOP, Clementia Pharmaceuticals Inc.'s palovarotene, an oral, retinoic acid gamma receptor agonist, currently in Phase 3, and Regeneron Pharmaceuticals Inc.'s REGN2477, an i.v. anti-activin antibody in Phase 2, are the most advanced development programs in the space. If one or more of our competitors' products or programs are successful, the market for our products may be reduced or eliminated.

Compared to us, many of our competitors and potential competitors have substantially greater:

- capital resources;
- research and development resources, including personnel and technology;
- regulatory experience;
- preclinical study and clinical testing experience;
- manufacturing and marketing experience; and
- production facilities.

Any of these competitive factors could impede our funding efforts, render technology and product candidates noncompetitive or eliminate or reduce demand for our product candidates.

We face risks related to our government-funded programs; if BARDA/HHS or NIAID/HHS were to eliminate, reduce or delay funding from our contracts, this would have a significant negative impact on the programs associated with such funding and could have a significant negative impact on our revenues and cash flows.

Our projections of revenues and incoming cash flows are substantially dependent upon BARDA/HHS and NIAID/HHS reimbursement for the costs related to our galidesivir program. If BARDA/HHS or NIAID/HHS were to eliminate, reduce or delay the funding for these programs or disallow some of our incurred costs, we would have to obtain additional funding for continued development or regulatory registration for these product candidates or significantly reduce or stop the development effort.

In contracting with BARDA/HHS and NIAID/HHS, we are subject to various U.S. Government contract requirements, including general clauses for a cost-reimbursement research and development contract, which may limit our reimbursement or if we are found to be in violation could result in contract termination. If the U.S. Government terminates any of its contracts with us for its convenience, or if we default by failing to perform in accordance with the contract schedule and terms, significant negative impact on our cash flows and operations could result.

Our government contracts with BARDA/HHS and NIAID/HHS have special contracting requirements, which create additional risks of reduction or loss of funding.

We have completed work under a contract with BARDA/HHS for the development of our neuraminidase inhibitor, RAPIVAB. We also have entered into contracts with BARDA/HHS and NIAID/HHS for the development of galidesivir as a treatment for diseases caused by RNA pathogens, including Marburg virus disease and Ebola virus disease. In contracting with these government agencies, we are subject to various U.S. Government contract requirements, including general clauses for a cost-reimbursement research and development contract, which may limit our reimbursement or, if we are found to be in violation, could result in contract termination.

U.S. Government contracts typically contain a number of extraordinary provisions that would not typically be found in commercial contracts and which may create a disadvantage and additional risks to us as compared to competitors that do not rely on U.S. Government contracts. These risks include the ability of the U.S. Government to unilaterally:

- terminate or reduce the scope of our contract with or without cause;

- interpret relevant regulations (federal acquisition regulation clauses);
- require performance under circumstances which may not be favorable to us;
- require an in process review where the U.S. Government will review the project and its options under the contract;
- control the timing and amount of funding, which impacts the development progress of our programs; and
- audit and object to our contract-related costs and fees, including allocated indirect costs.

Our government contracts with BARDA/HHS and NIAID/HHS have termination and audit provisions which create additional risks to us.

The U.S. Government may terminate its contracts with us either for its convenience or if we default by failing to perform in accordance with the contract schedule and terms. Termination for convenience provisions generally enable us to recover only our costs incurred or committed, and settlement expenses and profit on the work completed prior to termination. Termination does not permit these recoveries under default provisions. In the event of termination or upon expiration of a contract, the U.S. Government may dispute wind-down and termination costs and may question prior expenses under the contract and deny payment of those expenses. Should we choose to challenge the U.S. Government for denying certain payments under a contract, such a challenge could subject us to substantial additional expenses which we may or may not recover. Further, if the U.S. Government terminates its contracts with us for its convenience, or if we default by failing to perform in accordance with the contract schedule and terms, significant negative impact on our cash flows and operations could result.

As a U.S. Government contractor, we are required to comply with applicable laws, regulations and standards relating to our accounting practices and are subject to periodic audits and reviews. As part of any such audit or review, the U.S. Government may review the adequacy of, and our compliance with, our internal control systems and policies, including those relating to our purchasing, property, estimating, compensation and management information systems. Audits under the active BARDA/HHS and NIAID/HHS galidesivir contracts may occur at the election of the U.S. Government and have been concluded through fiscal 2015; all subsequent fiscal years are still open and auditable. Based on the results of its audits, the U.S. Government may adjust our contract-related costs and fees, including allocated indirect costs. This adjustment could impact the amount of revenues reported on a historic basis and could impact our cash flows under the contracts prospectively. In addition, in the event BARDA/HHS or NIAID/HHS determines that certain costs and fees were unallowable or determines that the allocated indirect cost rate was higher than the actual indirect cost rate, BARDA/HHS or NIAID/HHS would be entitled to recoup any overpayment from us as a result. In addition, if an audit or review uncovers any improper or illegal activity, we may be subject to civil and criminal penalties and administrative sanctions, including termination of our contracts, forfeiture of profits, suspension of payments, fines and suspension or prohibition from doing business with the U.S. Government. We could also suffer serious harm to our reputation if allegations of impropriety were made against us. In addition, under U.S. Government purchasing regulations, some of our costs may not be reimbursable or allowed under our contracts. Further, as a U.S. Government contractor, we are subject to an increased risk of investigations, criminal prosecution, civil fraud, whistleblower lawsuits and other legal actions and liabilities as compared to private sector commercial companies.

If we fail to reach milestones or to make annual minimum payments or otherwise breach our obligations under our license agreements, our licensors may terminate our agreements with them and seek additional remedies.

If we are unable or fail to meet payment obligations, performance milestones relating to the timing of regulatory filings, product supply obligations, post approval commitments for RAPIVAB, or development and commercial diligence obligations; are unable or fail to make milestone payments or material data use payments in accordance with applicable provisions; or fail to pay the minimum annual payments under our respective licenses, our licensors may terminate the applicable license or seek other available remedies. As a result, our development of the respective product candidate or commercialization of the product would cease.

If we fail to obtain additional financing or acceptable partnership arrangements, we may be unable to complete the development and commercialization of our product candidates or continue operations.

As our programs advance, our costs are likely to increase. Our current and planned discovery activities, pre-clinical and clinical trials, the related development, manufacturing, regulatory approval process requirements, and the additional personnel resources and testing required for supporting the development of our product candidates will consume significant capital resources. Our expenses, revenues and cash utilization rate could vary significantly depending on many factors, including: our ability to raise additional capital; the development progress of our collaborative agreements for our product candidates; the amount of funding we receive from NIAID/HHS and BARDA/HHS for galidesivir or from other new partnerships with third parties for the development of our product candidates, including BCX7353 and our other rare disease product candidates; the commercial success of peramivir achieved by our partners; the amount or profitability of any orders for peramivir or galidesivir by any government agency or other party; the progress and results of our current and proposed clinical trials for our most advanced product candidates, including BCX7353 and our other rare disease product candidates; the progress made in the manufacture of our lead products and the progression of our other programs.

We expect that we will be required to raise additional capital to complete the development and commercialization of our current product candidates and we may seek to raise capital at any time. Additional funding, whether through additional sales of securities, additional borrowings, or collaborative arrangements with partners, including governmental agencies in general and from any BARDA/HHS or NIAID/HHS contract specifically, may not be available when needed or on terms acceptable to us. The issuance of preferred or common stock or convertible securities, with terms and prices significantly more favorable than those of the currently outstanding common stock, could have the effect of diluting or adversely affecting the holdings or rights of our existing stockholders. Additional borrowings may subject us to more restrictive covenants than are currently applicable to us under our September 23, 2016 Senior Credit Facility with an affiliate of MidCap Financial Services, LLC, as administrative agent (the "Senior Credit Facility"). In addition, collaborative arrangements may require us to transfer certain material rights to such corporate partners. Insufficient funds or lack of an acceptable partnership may require us to delay, scale-back or eliminate certain of our research and development programs.

In order to continue future operations and continue our drug development programs, we will be required to raise additional capital. In addition to seeking strategic partnerships, transactions and government funding, we may decide to access the equity or debt markets, incur additional borrowings, or seek other sources to meet liquidity needs. Our ability to raise additional capital may be limited and may greatly depend upon the success of ongoing development related to our current drug development programs, including post approval studies for RAPIVAB, the progress, timeline and ultimate outcome of our kallikrein inhibitors, including the BCX7353 program (including, but not limited to, formulation progress, Phase 3 trials, long-term human safety studies, and the timing of carcinogenicity or other required studies), the progress of our ALK2 inhibitors for the treatment of FOP and other rare disease product candidates, funding for and continued successful development of galidesivir, and the progress of our early discovery programs. In addition, constriction and volatility in the equity and debt markets may restrict our future flexibility to raise capital when such needs arise. Furthermore, we have exposure to many different industries, financing partners and counterparties, including commercial banks, investment banks and partners (which include investors, licensing partners, and the U.S. Government) which may be unstable or may become unstable in the current economic and political environment. Any such instability may impact these parties' ability to fulfill contractual obligations to us or they might limit or place burdensome conditions upon future transactions with us. Also, it is possible that suppliers may be negatively impacted. Any such unfavorable outcomes in our current programs or unfavorable economic conditions could place severe downward pressure on the price of our common stock and may decrease opportunities to raise capital in the capital or credit markets, and further could reduce the return available on invested corporate cash, which, if severe and sustained, could have a material and adverse impact on our results of operations and cash flows and limit our ability to continue development of our product candidates.

We may not be able to continue as a going concern if we do not obtain additional capital.

We have sustained operating losses for the majority of our corporate history and expect that our 2018 expenses will exceed our 2018 revenues. We expect to continue to incur operating losses and negative cash flows until revenues reach a level sufficient to support ongoing operations.

Our liquidity needs will be largely determined by the success of operations in regards to the progression of our product candidates in the future. Our plans to alleviate the doubt regarding our ability to continue as a going concern primarily include our ability to control the timing and spending on our research and development programs and raising

additional funds through equity financings. We also may consider other plans to fund operations including: (1) securing or increasing U.S. Government funding of our programs, including obtaining procurement contracts; (2) out-licensing rights to certain of our products or product candidates, pursuant to which the we would receive cash milestones; (3) raising additional capital through equity or debt financings or from other sources; (4) obtaining additional product candidate regulatory approvals, which would generate revenue, milestones and cash flow; (5) reducing spending on one or more research and development programs, including by discontinuing development; and/or (6) restructuring operations to change our overhead structure.

There can be no assurance that any of our plans will be successful or that additional capital will be available to us on reasonable terms, or at all, when needed. If we are unable to obtain sufficient additional capital, we may be forced to curtail operations, delay or stop ongoing clinical trials, cease operations altogether or file for bankruptcy.

If we fail to successfully commercialize or establish collaborative relationships to commercialize certain of our product candidates, or if any partner terminates or fails to perform its obligations under agreements with us, potential revenues from commercialization of our product candidates could be reduced, delayed or eliminated.

Our business strategy is to increase the asset value of our product candidate portfolio. We believe this is best achieved by retaining full product rights or through collaborative arrangements with third parties as appropriate. As needed, potential third-party relationships could include preclinical development, clinical development, regulatory approval, marketing, sales and distribution of our product candidates.

Currently, we have established collaborative relationships with Mundipharma for the development and commercialization of Mundesine and with each of Shionogi and Green Cross for the development and commercialization of peramivir in Japan, Taiwan and South Korea. Most recently we have established a collaborative relationship with Seqirus UK Limited for RAPIVAB on a worldwide basis other than Israel, Japan, Korea and Taiwan. The process of establishing and implementing collaborative relationships is difficult, time-consuming and involves significant uncertainty, including:

- our partners may seek to renegotiate or terminate their relationships with us due to unsatisfactory commercial, regulatory or clinical results, including post approval clinical commitments, a change in business strategy, a change of control or other reasons;
- our contracts for collaborative arrangements may expire;
- our partners may choose to pursue alternative technologies, including those of our competitors;
- we may have disputes with a partner that could lead to litigation or arbitration;
- we do not have day to day control over the activities of our partners and have limited control over their decisions;
- our ability to generate future event payments and royalties from our partners depends upon their abilities to establish the safety and efficacy of our product candidates, obtain regulatory approvals and achieve market acceptance of products developed from our product candidates;
- we or our partners may fail to properly initiate, maintain or defend our intellectual property rights, where applicable, or a party may utilize our proprietary information in such a way as to invite litigation that could jeopardize or potentially invalidate our proprietary information or expose us to potential liability;
- we or our partners may not devote sufficient capital or resources towards our product candidates; and
- we or our partners may not comply with applicable government regulatory requirements.

If we or our partners fail to fulfill our responsibilities in a timely manner, or at all, our commercialization efforts related to that collaboration could be reduced, delayed or terminated, or it may be necessary for us to assume responsibility for activities that would otherwise have been the responsibility of our partner. If we are unable to establish and maintain collaborative relationships on acceptable terms, we may have to delay or discontinue further development of one or more of our product candidates, undertake commercialization activities at our own expense or find alternative sources of funding. Any delay in the development or commercialization of our product candidates would severely affect our business, because if our product candidates do not progress through the development process or reach the market in a timely manner, or at all, we may not receive additional future event payments and may never receive milestone, product sales or royalty payments.

We do not have a great deal of experience in commercializing our products or technologies, and our future revenue generation is uncertain.

We do not have a great deal of experience in commercializing our product candidates or technologies. We currently have limited marketing and commercial capability, no direct or third-party sales force and limited distribution capabilities. We may be unable to establish or sufficiently increase these capabilities for products we currently, or plan to, commercialize. In addition, our revenue from collaborative agreements may be dependent upon the status of our preclinical and clinical programs.

Our ability to receive revenue from products we commercialize presents several risks, including:

- we or our collaborators may fail to successfully complete clinical trials, or satisfy post-marketing commitments, sufficient to obtain and keep FDA marketing approval;
- many competitors are more experienced and have significantly more resources, and their products could reach the market faster, be more cost effective or have a better efficacy or tolerability profile than our product candidates;
- we may fail to employ a comprehensive and effective intellectual property strategy, which could result in decreased commercial value of our Company and our products;
- we may fail to employ a comprehensive and effective regulatory strategy, which could result in a delay or failure in commercialization of our products;
- our ability to successfully commercialize our products is affected by the competitive landscape, which cannot be fully known at this time;
- reimbursement is constantly changing, which could greatly affect usage of our products; and
- future revenue from product sales would depend on our ability to successfully complete clinical studies, obtain regulatory approvals, and manufacture, market and commercialize our approved drugs.

Commercialization of peramivir by our partners is subject to the potential commercialization risks described herein and numerous additional risks. Any potential revenue benefits to us in the form of milestone payments, royalties or other consideration are highly speculative.

Commercialization success of peramivir is uncertain and is subject to all the risks and uncertainties disclosed in our other risk factors relating to drug development and commercialization. In addition, commercialization of peramivir products is subject to further risks and may be negatively impacted by a number of factors, including, but not limited to, the following:

- peramivir may not prove to be adequately safe and effective for market approval in markets other than the United States, Canada, Japan, Korea and Taiwan;
- necessary funding for post-marketing commitments and further development of peramivir may not be available timely, at all, or in sufficient amounts;
- flu prevention or pandemic treatment concerns may not materialize at all, or in the near future;
- advances in flu vaccines or other antivirals, including competitive i.v. antivirals, could substantially replace potential demand for peramivir;
- a limited number of governmental entities are expected to be the primary potential stockpiling customers for peramivir and if we are not successful at marketing peramivir to these entities for any reason, we will not receive substantial revenues from stockpiling orders;
- government and third party payors may not provide sufficient coverage or reimbursement which would negatively impact the demand for peramivir;
- we may not be able to supply commercial material to our partners and our partners may not be able to maintain or establish sufficient and acceptable commercial manufacturing, either directly or through third-party manufacturers;
- the commercial demand and acceptance for peramivir by healthcare providers and by patients may not be sufficient to result in substantial revenues of peramivir to our partners and may result in little to no milestones or royalties to us;
- effectiveness of marketing and commercialization efforts for peramivir by our partners;
- market satisfaction with existing alternative therapies;
- perceived efficacy relative to other available therapies;
- disease prevalence;
- cost of treatment;
- pricing and availability of alternative products;

- marketing and sales activities of competitors;

- shifts in the medical community to new treatment paradigms or standards of care; and

- relative convenience and ease of administration.

We are subject to various federal and state laws related to RAPIVAB and other products under development and, if we or our partners do not comply with these regulations, we could face substantial penalties.

Our or our partners' activities related to RAPIVAB, or any of our other products under development and following their regulatory approval, are subject to regulatory and law enforcement authorities in addition to the FDA, including the Federal Trade Commission, the Department of Justice, and state and local governments. In the case of our collaboration with SUL, although SUL is responsible for RAPIVAB marketing and commercialization efforts, we continue to carry certain risks associated with RAPIVAB because we hold the RAPIVAB NDA. For example, we are responsible for reporting adverse drug experiences, we have responsibility for certain post-approval studies, we may have responsibilities and costs related to a recall or withdrawal of RAPIVAB from sale, we may incur liability associated with RAPIVAB manufacturing contracted by us or in support of any of our partners, we are required to maintain records and provide data and reports to regulatory agencies related to RAPIVAB (e.g. risk evaluation and mitigation strategies, track and trace requirements, adverse events), and we may incur certain promotional regulatory and government pricing risks, all of which could have a material adverse impact on our operations and financial condition.

In addition, we are subject to the federal physician sunshine act and certain similar physician payment and drug pricing transparency legislation in various states. We are also subject to various federal and state laws pertaining to health care "fraud and abuse," including both federal and state anti-kickback and false claims laws. These laws regulate our or our partners' operations, sales and marketing practices, price reporting, and relationships with physicians and other customers and third-party payors. Anti-kickback laws generally prohibit a manufacturer from soliciting, offering, receiving, or paying any remuneration to generate business, including the purchase or prescription of a particular drug. Although the specific provisions of these laws vary, their scope is generally broad and there may be no regulations, guidance or court decisions that clarify how the laws apply to particular industry practices. False claims laws prohibit anyone from knowingly and willingly presenting, or causing to be presented for payment to third party payors (including Medicare and Medicaid) claims for reimbursement or services that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services. The sunshine provisions apply to manufacturers with products reimbursed under certain government programs and require those manufacturers to disclose annually to the federal government certain payments made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as, ownership and investment interests held by physicians (as defined above) and their immediate family members. State laws may also require disclosure of pharmaceutical pricing information and marketing expenditures. Although we seek to comply with these statutes, it is possible that our practices, or those of our partners, might be challenged under health care fraud and abuse, anti-kickback, false claims or similar laws. Violations of the physician sunshine act and similar state legislation or the fraud and abuse laws may be punishable by civil or criminal sanctions, including fines and civil monetary penalties, and future exclusion from participation in government healthcare programs.

We have a number of outstanding post-marketing commitments to the FDA that we retain, despite our partnership with SUL, which we may not complete successfully or on time for any number of reasons, including but not limited to lack of funds to complete the studies and insufficient interest by appropriate sites, investigators or study subjects. For example, as a condition of the approval of RAPIVAB, we were required to complete a pediatric patient study of RAPIVAB and to submit the final results of this clinical trial to the FDA. We may be subject to penalties if we fail to comply with post-approval legal and regulatory requirements and our products could be subject to continual recordkeeping and reporting requirements, review and periodic inspections by the FDA and other regulatory bodies. Regulatory approval of a product may be subject to limitations on the indicated uses for which the product may be marketed or to the other restrictive conditions of approval that limit our ability to promote, sell or distribute a product. Furthermore, the approval of RAPIVAB and any other future product candidates may be subject to requirements for costly post-marketing testing and surveillance to monitor its safety or efficacy.

Advertising and promotion are subject to stringent FDA rules and oversight and as the holder of the NDA we may be held responsible for any advertising and promotion conducted by our partner that is not in compliance with the rules and regulations. In particular, the claims in all promotional materials and activities must be consistent with the FDA approvals for approved products, and must be appropriately substantiated and fairly balanced with information on the safety risks and limitations of the products. Adverse event information concerning approved products must be reviewed and as the NDA holder of RAPIVAB we are required to make expedited and periodic adverse event reports to the FDA and other regulatory authorities.

In addition, the research, manufacturing, distribution, sale and promotion of products are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including the Centers for Medicare and Medicaid Services, other divisions of the U.S. Department of Health and Human Services, the U.S. Department of Justice and individual U.S. Attorney offices within the Department of Justice, and state and local governments. Until

we can successfully transfer the pricing responsibilities to our partner, we remain responsible for pricing and rebate programs. Pricing and rebate programs must comply with the Medicaid rebate requirements of the Omnibus Budget Reconciliation Act of 1990, as amended, and the Veterans Health Care Act of 1992, as amended. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. All of these activities are also potentially subject to federal and state healthcare false claims and fraud and abuse laws, as well as consumer protection and unfair competition laws.

If our operations with respect to RAPIVAB or our other products that are subject to healthcare laws and regulations are found to be in violation of any of the healthcare fraud and abuse laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines and the curtailment or restructuring of our operations. Any penalties, damages, fines, curtailment or restructuring of our operations could adversely affect our ability to operate our business and our financial results. Although compliance programs can mitigate the risk of investigation and prosecution for violations of these laws, the risks cannot be entirely eliminated. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. Moreover, achieving and sustaining compliance with all applicable federal and state fraud and abuse laws may be costly.

We and our partners may be subject to new legislation, regulatory proposals and healthcare payor initiatives that may increase our costs of compliance and adversely affect our or our partners' ability to market our products, including RAPIVAB, obtain collaborators and raise capital.

The Patient Protection and Affordable Care Act, or PPACA, made extensive changes to the delivery of health care in the U.S. The PPACA included numerous provisions that affect pharmaceutical companies, some of which became effective immediately and others of which have taken effect over the past several years. For example, the PPACA expanded health care coverage to the uninsured through private health insurance reforms and an expansion of Medicaid. The PPACA also imposed substantial costs on pharmaceutical manufacturers, such as an increase in liability for rebates paid to Medicaid, new drug discounts that must be offered to certain enrollees in the Medicare prescription drug benefit, an annual fee imposed on all manufacturers of brand prescription drugs in the U.S., and an expansion of an existing program requiring pharmaceutical discounts to certain types of hospitals and federally subsidized clinics. The PPACA also contains cost containment measures that could reduce reimbursement levels for health care items and services generally, including pharmaceuticals. It also required reporting and public disclosure of payments and other transfers of value provided by pharmaceutical companies to physicians and teaching hospitals.

We expect that the current presidential administration and U.S. Congress will likely continue to seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the PPACA. There is still significant uncertainty with respect to the impact that the current presidential administration and the U.S. Congress may have on the PPACA, if any, and any changes will likely take time to unfold. As such, we cannot predict what effect the PPACA or other healthcare reform initiatives that may be adopted in the future will have on our business.

We cannot predict what effect the PPACA or other healthcare reform initiatives that may be adopted in the future will have on our business. The continuing efforts of the government, insurance companies, managed care organizations and other payors of health care services to contain or reduce costs of health care could result in decreased net revenues from our pharmaceutical products and decrease potential returns from our development efforts. In addition, pharmaceutical and device manufacturers are also required to report and disclose certain payments and transfers of value to, and investment interests held by, physicians and their immediate family members during the preceding calendar year. Failure to submit required information may result in civil monetary penalties for payments, transfers of value or ownership or investment interests not reported in an annual submission. Compliance with the PPACA and state laws with similar provisions is difficult and time consuming, and companies that do not comply with these state laws face civil penalties. Because of the breadth of these laws and the narrowness of the safe harbors, it is possible that some of our business activities could be subject to challenge under one or more of such laws. Such a challenge could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

In addition, there have been a number of other legislative and regulatory proposals aimed at changing the pharmaceutical industry. In particular, legislation has been enacted in certain states and at a federal level that requires development of an electronic pedigree to track and trace each prescription drug at the saleable unit level through the distribution system. Compliance with these electronic pedigree requirements may increase our operational expenses and impose significant administrative burdens. In addition, our compliance may be deemed insufficient and we could face a material adverse effect on our business, financial condition, results of operations and growth prospects. As a result of these and other new proposals, we may determine to change our current manner of operation, provide additional benefits or change our contract arrangements, any of which could have a material adverse effect on our

business, financial condition and results of operations.

Adequate coverage and reimbursement in the U.S. and other markets is critical to the commercial success of RAPIVAB or any other product that we might bring to market. Recently in the U.S. there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, reform government program reimbursement methodologies. Third-party payors are increasingly challenging the prices charged for medical products and services and, in some cases, imposing restrictions on the coverage of particular drugs. Many third-party payors negotiate the price of medical services and products and develop formularies which establish pricing and reimbursement levels. Exclusion of a product from a formulary can lead to its sharply reduced usage in the third-party payor's patient population. The process for obtaining coverage can be lengthy and costly, and we expect that it could take several months before a particular payor initially reviews our product and makes a decision with respect to coverage. For example, third-party payors may require cost-benefit analysis data from us in order to demonstrate the cost-effectiveness of RAPIVAB or any other product we might bring to market. For any individual third-party payor, we may not be able to provide data sufficient to gain reimbursement on a similar or preferred basis to competitive products, or at all which may have a material adverse effect on our business, financial condition and results of operations.

There are risks related to the potential government use or sale of peramivir (RAPIVAB).

United States Government use or sale of RAPIVAB in emergency situations, or otherwise, may result in the use of RAPIVAB outside of its approved use. To the extent that RAPIVAB is used as a treatment for influenza by the U.S. Government or peramivir by any other government entity, there can be no assurance that it will prove to be generally safe, well-tolerated and effective. Such government use of RAPIVAB/peramivir may create certain liabilities for us or our partners in the case of government use outside of the U.S. There is no assurance that we or our manufacturers will be able to fully meet the demand for peramivir in the event of additional orders. Further, we may not achieve a favorable price for additional orders of RAPIVAB in the U.S. or peramivir in any other country. Our competitors may develop products that could compete with or replace peramivir. We may face competition in markets where we have no existing intellectual property protection or are unable to successfully enforce our intellectual property rights.

There is no assurance that the non-U.S. partnerships that we have entered into for peramivir will result in any order for peramivir in those countries. There is no assurance that peramivir will be approved for any use or will achieve market approval in additional countries. In the event that any emergency use or market approval is granted, there is no assurance that any government order or commercialization of peramivir in any countries will be substantial or will be profitable to us. In addition, the sale of peramivir, emergency use or other use of peramivir in any country may create certain liabilities for us and our partners.

If we or our partners do not obtain and maintain governmental approvals for our product candidates under development, we or our partners will not be able to sell these potential products, which would significantly harm our business because we will receive no revenue.

We or our partners must obtain regulatory approval before marketing or selling our future product candidates. If we or our partners are unable to receive regulatory approval and do not market or sell our future product candidates, we will never receive any revenue from such product sales. In the United States, we or our partners must obtain FDA approval for product candidates that we intend to commercialize. The process of preparing for and obtaining FDA approval may be lengthy and expensive, and approval is never certain. Products distributed abroad are also subject to foreign government regulation and export laws of the United States. Because of the risks and uncertainties in biopharmaceutical development, our product candidates could take a significantly longer time to gain regulatory approval than we expect or may never gain approval. If the FDA delays regulatory approval of our product candidates, our management's credibility, our value and our operating results may suffer. Even if the FDA or foreign regulatory agencies approve a product candidate, the approval may limit the indicated uses for a product candidate and/or may require post-approval studies.

The FDA regulates, among other things, the record keeping and storage of data pertaining to potential pharmaceutical products. We currently store most of our preclinical research data, our clinical data and our manufacturing data at our facility. While we do store duplicate copies of most of our clinical data offsite and a significant portion of our data is included in regular backups of our systems, we could lose important data if our facility incurs damage, or if our vendor data systems fail, suffer damage or are destroyed. If we receive approval to market our potential products, whether in the United States or internationally, we will continue to be subject to extensive regulatory requirements. These requirements are wide ranging and govern, among other things:

- adverse drug experience reporting regulations;
- product promotion;
- product manufacturing, including good manufacturing practice requirements; and
- product changes or modifications.

Our failure to comply with existing or future regulatory requirements, or our loss of, or changes to, previously obtained approvals, could have a material adverse effect on our business because we will not receive product or royalty revenues if we or our partners do not receive approval of our products for marketing.

Royalties and milestone payments from Shionogi under our license agreement with Shionogi (the "Shionogi Agreement") will be required to be used by Royalty Sub to service its obligations under its PhaRMA Notes, and generally will not be available to us for other purposes until Royalty Sub has repaid in full its obligations under the PhaRMA Notes.

In March 2011, our wholly-owned subsidiary Royalty Sub issued $30.0 million in aggregate principal amount of PhaRMA Notes. The PhaRMA Notes are secured principally by (i) certain royalty and milestone payments under the Shionogi Agreement, pursuant to which Shionogi licensed from us the rights to market peramivir in Japan and Taiwan, (ii) rights to certain payments under a Japanese yen/U.S. dollar Currency Hedge Agreement put into place by us in connection with the issuance of the PhaRMA Notes and (iii) the pledge by us of our equity interest in Royalty Sub. Payments from Shionogi to us on non-governmental sales under the Shionogi Agreement will generally not be available to us for other purposes until Royalty Sub has repaid in full its obligations under the PhaRMA Notes. Accordingly, these funds will be required to be dedicated to Royalty Sub’s debt service and not available to us for product development or other purposes. As of September 1, 2014, the payments from Shionogi were insufficient for Royalty Sub to service its obligations under the PhaRMA Notes, resulting in an event of default with respect to the PhaRMA Notes. As a result of this event of default, the holders of the PhaRMA Notes may be able to pursue acceleration of the PhaRMA Notes and foreclose on the collateral securing the PhaRMA Notes and our equity interest in Royalty Sub and may exercise other remedies available to them under the indenture or other documents related to the PhaRMA Notes. In such event, we may not realize the benefit of future royalty payments that might otherwise accrue to us following repayment of the PhaRMA Notes, we may incur legal costs and we might otherwise be adversely affected.

Because an event of default has occurred under the PhaRMA Notes, the holders of the PhaRMA Notes may be able to pursue acceleration of the PhaRMA Notes and foreclose on the collateral securing the PhaRMA Notes and our equity interest in Royalty Sub, in which case we may not realize the benefit of future royalty payments that might otherwise accrue to us following repayment of the PhaRMA Notes and we could otherwise be adversely affected.

Royalty Sub's ability to service its payment obligations in respect of the PhaRMA Notes, and our ability to benefit from our equity interest in Royalty Sub, is subject to numerous risks. Royalty Sub's ability to service the PhaRMA Notes may be adversely affected by, among other things, changes in or any termination of our relationship with Shionogi, reimbursement, regulatory, manufacturing and/or intellectual property issues, product returns, product recalls, product liability claims and allegations of safety issues, as well as other factors. As Royalty Sub has been unable to service its obligations under the PhaRMA Notes and an event of default has occurred under the PhaRMA Notes, the holders of the PhaRMA Notes may be able to pursue acceleration of the PhaRMA Notes and foreclose on the collateral securing the PhaRMA Notes and our equity interest in Royalty Sub and may exercise other remedies available to them under the indenture or other documents related to the PhaRMA Notes. In such event, we may not realize the benefit of future royalty payments that might otherwise accrue to us following repayment of the PhaRMA Notes, we may incur legal costs and we might otherwise be adversely affected.

We may be required to pay significant premiums under the Currency Hedge Agreement entered into by us in connection with the issuance of the PhaRMA Notes. In addition, because our potential obligations under the foreign currency hedge are marked to market, we may experience additional quarterly volatility in our operating results and cash flows attributable to the Currency Hedge Agreement.

In connection with the issuance by Royalty Sub of the PhaRMA Notes, we entered into a Currency Hedge Agreement to hedge certain risks associated with changes in the value of the Japanese yen relative to the U.S. dollar. Under the foreign currency hedge agreement, we may be required to pay an annual premium in the amount of $2.0 million in each May continuing through May 2020. Such payment will be required if, in May of the relevant year, the spot rate of exchange for Japanese yen-U.S. dollars (determined in accordance with the Currency Hedge Agreement) is such that the U.S. dollar is worth 100 yen or less. We will be required to mark to market our potential obligations under the currency hedge and post cash collateral, which may cause us to experience additional quarterly volatility in our operating results and cash flows as a result. Additionally, we may be required to pay significant premiums or a termination fee under the foreign currency hedge agreement entered into by us in connection with the issuance of the PhaRMA Notes. We are required to maintain a foreign currency hedge at 100 yen per dollar under the agreements governing the PhaRMA Notes.

Our Senior Credit Facility contains restrictions that limit our flexibility in operating our business. We may be required to make a prepayment or repay the outstanding indebtedness earlier than we expect if a prepayment event or an event of default occurs, including a material adverse change with respect to us, which could have a material adverse effect on our business.

The Senior Credit Facility contains various covenants that limit our ability to engage in specified types of transactions. These covenants limit our ability to, among other things:

•convey, sell, lease, license, transfer or otherwise dispose of certain parts of our business or property;

•change the nature of our business;

•liquidate or dissolve;

•enter into certain change in control or acquisition transactions;

•incur or assume certain debt;

•grant certain types of liens on our assets;

•modify, liquidate or transfer assets in certain collateral accounts;

•pay dividends or make certain distributions to our stockholders;

•make certain investments;

•enter into material transactions with affiliates; and

•modify existing debt or collaboration arrangements.

The restrictive covenants contained in the Senior Credit Facility could cause us to be unable to pursue business opportunities that we or our stockholders may consider beneficial without the lender's permission or without repaying all Senior Credit Facility obligations.

A breach of any of these covenants could result in an event of default under the Senior Credit Facility. An event of default will also occur if, among other things, a material adverse change in our business, operations or condition occurs, which could potentially include negative results in clinical trials, or a material impairment of the prospect of our repayment of any portion of the amounts we owe under the Senior Credit Facility occurs. In the case of a continuing event of default under the agreement, the lender could elect to declare all amounts outstanding to be immediately due and payable, proceed against the collateral in which we granted to the lender a security interest under the Senior Credit Facility, or otherwise exercise the rights of a secured creditor. Amounts outstanding under the Senior Credit Facility are secured by substantially all of our assets and those of our subsidiaries, excluding certain specified assets but including proceeds from those assets.

If we fail to adequately protect or enforce our intellectual property rights or secure rights to patents of others, the value of those rights would diminish.

Our success will depend in part on our ability and the abilities of our partners to obtain, protect and enforce viable intellectual property rights including but not limited to trade name, trademark and patent protection for our Company and its products, methods, processes and other technologies we may license or develop, to preserve our trade secrets, and to operate without infringing the proprietary rights of third parties both domestically and abroad. The patent position of biotechnology and pharmaceutical companies is generally highly uncertain, involves complex legal and factual questions and has recently been the subject of much litigation. Neither the United States Patent and Trademark Office ("USPTO"), the Patent Cooperation Treaty offices, nor the courts of the United States and other jurisdictions have consistent policies nor predictable rulings regarding the breadth of claims allowed or the degree of protection afforded under many biotechnology and pharmaceutical patents. Further, we may not have worldwide patent protection for all of our product candidates and our intellectual property rights may not be legally protected or enforceable in all countries throughout the world. In some jurisdictions, some of our product candidates in certain programs, including our HAE program, may have short or no composition of matter patent life and we may therefore rely on orphan drug exclusivity or data exclusivity. There can be no assurance that we will obtain orphan drug exclusivity or data exclusivity in every jurisdiction. Further, in some jurisdictions, we may rely on formulation patents or method of use patents. Both the ability to achieve issuance and the enforcement of formulation and method of use patents can be highly uncertain and can vary from jurisdiction to jurisdiction, and such patents may therefore not adequately prevent competitors and potential infringers in some jurisdictions. The validity, scope, enforceability and commercial value of the rights protected by such patents, therefore, is highly uncertain.

We also rely on trade secrets to protect technology in cases when we believe patent protection is not appropriate or obtainable. However, trade secrets are difficult to protect. If we cannot maintain the confidentiality of our technology and other confidential information in connection with our collaborators and advisors, our ability to receive patent protection or protect our proprietary information may be imperiled.

We may be involved in lawsuits to protect or enforce our patents, the patents of our partners or our other intellectual property rights, which could be expensive, time consuming and unsuccessful.

Competitors may infringe or otherwise violate our patents, the patents of our licensors or our other intellectual property rights. To counter infringement or unauthorized use, we may be required to file legal claims, which can be expensive and time-consuming and unsuccessful. An adverse result in any litigation or defense proceeding could put one or more of our patents at risk. Our success depends in part on avoiding the infringement of other parties' patents and other intellectual property rights as well as avoiding the breach of any licenses relating to our technologies and products. In the United States, patent applications filed in recent years are confidential for 18 months, while older applications are not published until the patent issues. As a result, avoiding patent infringement may be difficult and we may inadvertently infringe third-party patents or proprietary rights. These third parties could bring claims against us, our partners or our licensors that even if resolved in our favor, could cause us to incur substantial expenses and, if resolved against us, could additionally cause us to pay substantial damages. Further, if a patent infringement suit were brought against us, our partners or our licensors, we or they could be forced to stop or delay research, development, manufacturing or sales of any infringing product in the country or countries covered by the patent we infringe, unless we can obtain a license from the patent holder. Such a license may not be available on acceptable terms, or at all, particularly if the third party is developing or marketing a product competitive with the infringing product. Even if we, our partners or our licensors were able to obtain a license, the rights may be nonexclusive, which would give our competitors access to the same intellectual property.

If we or our partners are unable or fail to adequately initiate, protect, defend or enforce our intellectual property rights in any area of commercial interest or in any part of the world where we wish to seek regulatory approval for our products, methods, processes and other technologies, the value of the product candidates to produce revenue would diminish. Additionally, if our products, methods, processes, and other technologies or our commercial use of such products, processes, and other technologies, including but not limited to any trade name, trademark or commercial strategy infringe the proprietary rights of other parties, we could incur substantial costs. The USPTO and the patent offices of other jurisdictions have issued to us a number of patents for our various inventions and we have in-licensed several patents from various institutions. We have filed additional patent applications and provisional patent applications with the USPTO. We have filed a number of corresponding foreign patent applications and intend to file additional foreign and U.S. patent applications, as appropriate. We have also filed certain trademark and trade name applications worldwide. We cannot assure you as to:

- the degree and range of protection any patents will afford against competitors with similar products;
- if and when patents will issue;
- if patents do issue we cannot be sure that we will be able to adequately defend such patents and whether or not we will be able to adequately enforce such patents; or
- whether or not others will obtain patents claiming aspects similar to those covered by our patent applications.

If the USPTO or other foreign patent office upholds patents issued to others or if the USPTO grants patent applications filed by others, we may have to:

- obtain licenses or redesign our products or processes to avoid infringement;
- stop using the subject matter claimed in those patents; or
- pay damages.

We may initiate, or others may bring against us, litigation or administrative proceedings related to intellectual property rights, including proceedings before the USPTO or other foreign patent office. Any judgment adverse to us in any litigation or other proceeding arising in connection with a patent or patent application could materially and adversely affect our business, financial condition and results of operations. In addition, the costs of any such proceeding may be substantial whether or not we are successful.

Our success is also dependent upon the skills, knowledge and experience, none of which is patentable, of our scientific and technical personnel. To help protect our rights, we require all employees, consultants, advisors and partners to enter into confidentiality agreements that prohibit the disclosure of confidential information to anyone outside of our company and require disclosure and assignment to us of their ideas, developments, discoveries and inventions. These agreements may not provide adequate protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure or the lawful development by others of such information, and if any of our proprietary information is disclosed, our business will suffer because our revenues depend upon our ability to

license or commercialize our product candidates and any such events would significantly impair the value of such product candidates.

Our failure to comply with data protection laws and regulations could lead to government enforcement actions and significant penalties against us and adversely impact our operating results.

European Union ("EU") Member States, Switzerland and other countries have adopted data protection laws and regulation, which impose significant compliance obligations. For example, the EU Data Protection Directive, as implemented into national laws by the EU Member States, imposes strict obligations and restrictions on the ability to collect, analyze and transfer personal data, including health data from clinical trials and adverse event reporting. Data protection authorities from the different EU Member States may interpret the EU Data Protection Directive and national laws differently, which adds to the complexity of processing personal data in the European Union, and guidance on implementation and compliance practices is often updated or otherwise revised. Our failure to comply with these laws and regulations could lead to government enforcement actions and significant penalties against us and adversely impact our operating results.

We are subject to litigation, which could result in losses or unexpected expenditure of time and resources.

From time to time, we may be called upon to defend ourselves against lawsuits relating to our business. Due to the inherent uncertainties in litigation, we cannot accurately predict the ultimate outcome of any such proceedings. An unfavorable outcome in any such proceedings could have an adverse impact on our business, financial condition and results of operations. If our stock price is volatile, we may become involved in securities class action lawsuits in the future. Any litigation in the future, regardless of its merits, could result in substantial costs and a diversion of management's attention and resources that are needed to successfully run our business.

We face an inherent risk of liability in the event that the use or misuse of our products results in personal injury or death and our product liability insurance coverage may be insufficient.

If the use or misuse of peramivir, forodesine or any other regulatory body-approved products we or a partner may sell in the future harms people, we may be subject to costly and damaging product liability claims brought against us by consumers, healthcare providers, pharmaceutical companies, third-party payors or others. The use of our product candidates in clinical trials, including post marketing clinical studies, could also expose us to product liability claims. We cannot predict all of the possible harms or side effects that may result from the use of our products or the testing of product candidates and, therefore, the amount of insurance coverage we currently have may not be adequate to cover all liabilities or defense costs we might incur. A product liability claim or series of claims brought against us could give rise to a substantial liability that could exceed our resources. Even if claims are not successful, the costs of defending such claims and potential adverse publicity could be harmful to our business.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face even greater risks upon any commercialization by us of our product candidates. We have product liability insurance covering our clinical trials. Clinical trial and product liability insurance is becoming increasingly expensive. As a result, we may be unable to obtain sufficient insurance or increase our existing coverage at a reasonable cost to protect us against losses that could have a material adverse effect on our business. An individual may bring a product liability claim against us if one of our products or product candidates causes, or is claimed to have caused, an injury or is found to be unsuitable for consumer use. Any product liability claim brought against us, with or without merit, could result in:

- liabilities that substantially exceed our product liability insurance, which we would then be required to pay from other sources, if available;
- an increase of our product liability insurance rates or the inability to maintain insurance coverage in the future on acceptable terms, or at all;
- withdrawal of clinical trial volunteers or patients;
- damage to our reputation and the reputation of our products, resulting in lower sales;
- regulatory investigations that could require costly recalls or product modifications;
- litigation costs; and
- the diversion of management’s attention from managing our business.

Insurance coverage is increasingly more costly and difficult to obtain or maintain.

While we currently have insurance for our business, property, directors and officers, and our products, insurance is increasingly more costly and narrower in scope, and we may be required to assume more risk in the future. If we are subject to claims or suffer a loss or damage in excess of our insurance coverage, we will be required to bear any loss in excess of our insurance limits. If we are subject to claims or suffer a loss or damage that is outside of our insurance coverage, we may incur significant uninsured costs associated with loss or damage that could have an adverse effect on our operations and financial position. Furthermore, any claims made on our insurance policies may impact our ability to obtain or maintain insurance coverage at reasonable costs or at all.

If our facility incurs damage or power is lost for a significant length of time, our business will suffer.

We store clinical and stability samples at our facility that could be damaged if our facility incurs physical damage or in the event of an extended power failure. We have backup power systems in addition to backup generators to maintain power to all critical functions, but any loss of these samples could result in significant delays in our drug development process.

In addition, we store most of our preclinical and clinical data at our facilities. Duplicate copies of most critical data are secured off-site. Any significant degradation or failure of our computer systems could cause us to inaccurately calculate or lose our data. Loss of data could result in significant delays in our drug development process and any system failure could harm our business and operations.

A significant disruption in our information technology systems or a cyber-security breach could adversely affect our business.

We are increasingly dependent on information technology systems to operate our business. Like other companies in our industry, our networks and infrastructure may be vulnerable to cyber-attacks or intrusions, including by computer hackers, foreign governments, foreign companies or competitors, or may be breached by employee error, malfeasance or other disruption. A breakdown, invasion, corruption, destruction or interruption of critical information technology systems could negatively impact operations. If our systems are damaged, fail to function properly or otherwise become unavailable, we may incur substantial costs to repair or replace them, and we may experience loss of critical data and interruptions or delays in our ability to perform critical functions, which could adversely affect our business, financial condition or results of operations. Any compromise of our data security could also result in a violation of applicable privacy and other laws, significant legal and financial exposure, damage to our reputation, loss or misuse of the information and a loss of confidence in our data security measures, which could harm our business. There can be no assurance that our efforts to protect our data and information technology systems will prevent breakdowns or breaches in our systems, or those of third parties with which we do business, and any such events could adversely affect our business.

If we fail to retain our existing key personnel or fail to attract and retain additional key personnel, the development of our product candidates and commercialization of our products and the related expansion of our business will be delayed or stopped.

We are highly dependent upon our senior management and scientific team, the unexpected loss of whose services might impede the achievement of our development and commercial objectives. Competition for key personnel with the experience that we require is intense and is expected to continue to increase. Our inability to attract and retain the required number of skilled and experienced management, commercial, operational and scientific personnel will harm our business because we rely upon these personnel for many critical functions of our business.

If because of our use of hazardous materials, we violate any environmental controls or regulations that apply to such materials, we may incur substantial costs and expenses in our remediation efforts.

Our research and development involves the controlled use of hazardous materials, chemicals and various radioactive compounds. We are subject to federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and some waste products. Accidental contamination or injury from these materials could occur. In the event of an accident, we could be liable for any damages that result and any liabilities could exceed our resources. Compliance with environmental laws and regulations or a violation of such environmental laws and regulations could require us to incur substantial unexpected costs, which would materially and adversely affect our results of operations.

Risks relating to investing in our common stock

Our existing principal stockholders hold a substantial amount of our common stock and may be able to influence significant corporate decisions, which may conflict with the interest of other stockholders.

Several of our stockholders own greater than 5% of our outstanding common stock. Our top ten stockholders own more than 50% of BioCryst and can individually, and as a group, influence our operations based upon their concentrated ownership. These stockholders, if they act together, may be able to influence the outcome of matters requiring approval of the stockholders, including the election of our directors and other corporate actions.

Our stock price has been, and is likely to continue to be, highly volatile, which could cause the value of an investment in our common stock to decline significantly.

The market prices for securities of biotechnology companies in general have been highly volatile and may continue to be highly volatile in the future. Moreover, our stock price has fluctuated frequently, and these fluctuations are often not related to our financial results. For the twelve months ended December 31, 2017, the 52-week range of the market price of our stock was from $3.95 to $9.25 per share. The following factors, in addition to other risk factors described in this section, may have a significant impact on the market price of our common stock:

- announcements of technological innovations or new products by us or our competitors;
- developments or disputes concerning patents or proprietary rights;
- additional dilution through sales of our common stock or other derivative securities;
- status of new or existing licensing or collaborative agreements and government contracts;
- announcements relating to the status of our programs;
- developments and announcements regarding new and virulent strains of influenza;
- we or our partners achieving or failing to achieve development milestones;
- publicity regarding actual or potential medical results relating to products under development by us or our competitors;
- publicity regarding certain public health concerns for which we are or may be developing treatments;
- regulatory developments in both the United States and foreign countries;

- public concern as to the safety of pharmaceutical products;
- actual or anticipated fluctuations in our operating results;
- changes in financial estimates or recommendations by securities analysts;
- changes in the structure of healthcare payment systems, including developments in price control legislation;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- additions or departures of key personnel or members of our board of directors;
- purchases or sales of substantial amounts of our stock by existing stockholders, including officers or directors;
- economic and other external factors or other disasters or crises; and
- period-to-period fluctuations in our financial results.

Future sales and issuances of securities may dilute the ownership interests of our current stockholders and cause our stock price to decline.

Future sales of our common stock by current stockholders into the public market could cause the market price of our stock to fall. As of January 31, 2018, there were 98,606,110 shares of our common stock outstanding. We may from time to time issue securities in relation to a license arrangement, collaboration, merger or acquisition. We may also sell, for our own account, shares of common stock or other equity securities, from time to time at prices and on terms to be determined at the time of sale.

As of January 31, 2018, there were 14,470,341 stock options and restricted stock units outstanding, 484,077 shares available for issuance under our Amended and Restated Stock Incentive Plan, and 277,391 shares available for issuance under our Employee Stock Purchase Plan. In addition, we could also make equity compensation grants outside of our Stock Incentive Plan. The shares underlying existing stock options, restricted stock units and possible future stock options, stock appreciation rights and stock awards have been registered pursuant to registration statements on Form S-8.

If some or all of such shares are sold or otherwise issued into the public market over a short period of time, our current stockholders' ownership interests may be diluted and the value of all publicly traded shares is likely to decline, as the market may not be able to absorb those shares at then-current market prices. Additionally, such sales and issuances may make it more difficult for us to sell equity securities or equity-related securities in the future at a time and price that our management deems acceptable, or at all.

In March 2017, we entered into a Registration Rights Agreement with entities affiliated with Baker Bros. Advisors LP (the "Baker Entities") to provide that, if requested, we will register the shares of our common stock beneficially owned by the Baker Entities for resale under the Securities Act. Our registration obligations pursuant to the Registration Rights Agreement cover all shares then held or thereafter acquired by the Baker Entities, for up to ten years, and include our obligation to facilitate certain underwritten public offerings of our common stock by the Baker Entities in the future. On May 10, 2017, we filed a registration statement on Form S-3 with respect to 11,710,951 shares of common stock held by the Baker Entities. If the Baker Entities, by exercising their underwriting rights or otherwise, sell a large number of our shares, or the market perceives that the Baker Entities intend to sell a large number of our shares, this could adversely affect the market price of our common stock.

We have anti-takeover provisions in our corporate charter documents that may result in outcomes with which you do not agree.

Our board of directors has the authority to issue up to 4,800,000 shares of undesignated preferred stock and to determine the rights, preferences, privileges and restrictions of those shares without further vote or action by our stockholders. The rights of the holders of any preferred stock that may be issued in the future may adversely affect the rights of the holders of common stock. The issuance of preferred stock could make it more difficult for third parties to acquire a majority of our outstanding voting stock.

In addition, our certificate of incorporation provides for staggered terms for the members of the board of directors and supermajority approval of the removal of any member of the board of directors and prevents our stockholders from acting by written consent or from calling special meetings of stockholders. Our certificate also requires supermajority approval of any amendment of these provisions. These provisions and other provisions of our by-laws and of Delaware law applicable to us could delay or make more difficult a merger, tender offer or proxy contest involving us.

We have never paid dividends on our common stock and do not anticipate doing so in the foreseeable future.

We have never paid cash dividends on our stock. We currently intend to retain all future earnings, if any, for use in the operation of our business. Accordingly, we do not anticipate paying cash dividends on our common stock in the foreseeable future.

Information Regarding Forward-Looking Statements

This filing contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the "safe harbor" created in Section 21E. All statements other than statements of historical facts contained in this filing are forward-looking statements. These forward-looking statements can generally be identified by the use of words such as "may," "will," "intends," "plans," "believes," "anticipates," "expects," "esti "predicts," "potential," the negative of these words or similar expressions. Statements that describe our future plans, strategies, intentions, expectations, objectives, goals or prospects are also forward-looking statements. Discussions containing these forward-looking statements are principally contained in "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as any amendments we make to those sections in filings with the SEC. These forward-looking statements include, but are not limited to, statements about:

- statements about the benefits of the transactions contemplated by the Merger Agreement, including future financial and operating results;
- Idera's and BioCryst's plans, objectives, expectations and intentions;
- the expected timing of completion of the transactions contemplated by the Merger Agreement; and other statements relating to the Mergers that are not historical facts;
- the preclinical development, clinical development, commercialization, or post-marketing studies of our product candidates and products, including our HAE program, peramivir, galidesivir, and early stage discovery programs;
- the potential funding from our contracts with NIAID/HHS and BARDA/HHS for the development of galidesivir;
- the potential for government stockpiling orders of peramivir, additional regulatory approvals of peramivir or milestones royalties or profit from sales of peramivir by us or our partners;
- the potential use of peramivir as a treatment for H1N1, H5N1, and H7N9 or other strains of influenza;
- the implementation of our business model, strategic plans for our business, products, product candidates and technology;
- our ability to establish and maintain collaborations or out-license rights to our product candidates;
- plans, programs, progress and potential success of our collaborations, including SUL for peramivir, Mundipharma for Mundesine and Shionogi and Green Cross for peramivir in their territories;
- Royalty Sub's ability to service its payment obligations in respect of the PhaRMA Notes;
- the Currency Hedge Agreement entered into by us in connection with the issuance by Royalty Sub of the PhaRMA Notes;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and technology;

- our ability to operate our business without infringing the intellectual property rights of others;
- estimates of our expenses, revenues, capital requirements, annual cash utilization, and our needs for additional financing;
- our ability to continue as a going concern;
- the timing or likelihood of regulatory filings or regulatory agreements, deferrals, and approvals;
- our ability to raise additional capital to fund our operations or repay our recourse debt obligations;
- our ability to comply with the covenants as set forth in the agreements governing our debt obligations;
- our financial performance; and
- competitive companies, technologies and our industry.

These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under “Risk Factors.” Any forward-looking statement reflects our current views with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

ITEM 1B. ***UNRESOLVED STAFF COMMENTS***

None.

ITEM 2. ***PROPERTIES***

We lease property in both Durham, North Carolina and Birmingham, Alabama. Our headquarters, including our clinical and regulatory operations, are based in Durham, while our principal research facility is located in Birmingham. We currently lease approximately 17,250 square feet in Durham through June 30, 2020 and lease approximately 32,000 square feet in Birmingham through October 31, 2026. We believe that our facilities are adequate for our current and planned future operations.

ITEM 3. ***LEGAL PROCEEDINGS***

None.

ITEM 4. ***MINE SAFETY DISCLOSURES***

Not applicable.

PART II

ITEM 5. ***MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES***

Market Information

Our common stock trades on the NASDAQ Global Select Market under the symbol BCRX. The following table sets forth the low and high sales prices of our common stock as reported by the NASDAQ Global Select Market for each quarter in 2017 and 2016:

	2017		2016	
	Low	High	Low	High
First quarter	$4.20	$9.25	$1.63	$10.24
Second quarter	$5.02	$8.80	$2.49	$4.03
Third quarter	$3.95	$6.22	$2.82	$5.80
Fourth quarter	$4.12	$5.35	$3.75	$7.56

The last sale price of the common stock on January 31, 2018 as reported by the NASDAQ Global Select Market was $4.50 per share.

Holders

As of January 31, 2018, there were approximately 183 holders of record of our common stock.

Dividends

We have never paid cash dividends and do not anticipate paying cash dividends in the foreseeable future.

Stock Performance Graph

This performance graph is not “soliciting material,” is not deemed filed with the SEC and is not to be incorporated by reference in any filing by us under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing. The stock price performance shown on the graph is not necessarily indicative of future price performance.

PERFORMANCE GRAPH FOR BIOCRYST

Indexed Comparison Since 2012

	Beginning Investment 12/31/12	Investment at 12/31/13	Investment at 12/31/14	Investment at 12/31/15	Investment at 12/31/16	Investment at 12/31/17
BioCryst Pharmaceuticals, Inc.	$ 100.00	$ 535.21	$ 856.34	$ 726.76	$ 445.77	$ 345.77
NASDAQ Stock Market (U.S.)	100.00	133.48	150.12	150.84	170.48	206.91
NASDAQ Pharmaceutical Stocks	100.00	135.68	165.29	174.27	172.37	205.33

The above graph measures the change in a $100 investment in our common stock based on its closing price of $1.42 on December 31, 2012 and its year-end closing price thereafter. Our relative performance is then compared with the CRSP Total Return Indexes for the NASDAQ Stock Market (U.S.) and NASDAQ Pharmaceutical Stocks.

Recent Sales of Unregistered Securities: None.

Issuer Purchases of Equity Securities

There were no repurchases of our common stock or shares surrendered to satisfy tax obligations during the fourth quarter of 2017.

ITEM 6. ***SELECTED FINANCIAL DATA***

The selected Statement of Operations Data and Balance Sheet data with respect to the years ended December 31, 2017, 2016, 2015, 2014, and 2013 set forth below are derived from our consolidated financial statements. The selected financial data set forth below should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contained in Item 7 below and our consolidated financial statements and the notes thereto appended to this annual report.

	Years Ended December 31,				
	2017	2016	2015	2014	2013
	(In thousands, except per share amounts)				
Statement of Operations Data:					
Total revenues	$25,186	$26,353	$48,257	$13,608	$17,331
Cost of product sold	1,142	2,297	1,368	1	—
Research and development expenses	66,962	61,008	72,758	51,796	41,943
General and administrative expenses	13,933	11,253	13,047	7,461	6,007
Royalty expense	560	402	528	121	98
Loss from operations	(57,411)	(48,607)	(39,444)	(45,771)	(30,717)
Net loss	(65,782)	(55,144)	(43,019)	(45,189)	(30,108)
Basic and diluted net loss per share	$(0.78)	$(0.75)	$(0.59)	$(0.68)	$(0.55)
Weighted average shares outstanding	84,451	73,699	72,901	66,773	55,216

	As of December 31,				
	2017	2016	2015	2014	2013
	(In thousands)				
Balance Sheet Data:					
Cash, cash equivalents and investments	$158,978	$65,122	$100,858	$114,038	$40,788
Receivables	6,117	8,768	6,243	9,490	2,115
Inventory	—	500	1,612	683	—
Total assets	178,259	89,847	122,359	134,238	45,791
Long-term deferred revenue	—	8,184	9,674	3,552	4,736
Non-recourse notes payable	28,682	28,243	27,804	27,364	26,925
Senior credit facility	23,214	22,777	—	—	—
Accumulated deficit	(631,843)	(566,061)	(510,917)	(467,898)	(422,709)
Total stockholders' equity (deficit)	83,767	1,578	47,724	75,635	(1,126)

ITEM 7. ***MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS***

This Annual Report on Form 10-K contains certain statements of a forward-looking nature relating to future events or the future financial performance of BioCryst. Such statements are only predictions and the actual events or results may differ materially from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences include those discussed below and elsewhere in this report, as well as those discussed in other filings made by BioCryst with the Securities and Exchange Commission.

The following Management's Discussion and Analysis ("MD&A") is intended to help the reader understand our results of operations and financial condition. MD&A is provided as a supplement to, and should be read in conjunction with, our audited financial statements and the accompanying notes to the financial statements and other disclosures included in this Annual Report on Form 10-K (including the disclosures under "Item 1A. Risk Factors").

Cautionary Statement

The discussion herein contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the "safe harbor" created in Section 21E. Forward looking statements regarding our financial condition and our results of operations that are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted within the United States ("U.S. GAAP"), as well as projections for the future. The preparation of these financial statements requires our management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We evaluate our estimates on an ongoing basis. Our estimates are based on historical experience and on various other assumptions that are believed to be reasonable under the circumstances. The results of our estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources.

We operate in a highly competitive environment that involves a number of risks, some of which are beyond our control. We are subject to risks common to biotechnology and biopharmaceutical companies, including risks inherent in our drug discovery, drug development and commercialization efforts, clinical trials, uncertainty of regulatory actions and marketing approvals, reliance on collaborative partners, enforcement of patent and proprietary rights, the need for future capital, competition associated with products, potential competition associated with our product candidates and retention of key employees. In order for any of our product candidates to be commercialized, it will be necessary for us, or our collaborative partners, to conduct clinical trials, demonstrate efficacy and safety of the product candidate to the satisfaction of regulatory authorities, obtain marketing approval, enter into manufacturing, distribution and marketing arrangements, and obtain market acceptance and adequate reimbursement from government and private insurers. We cannot provide assurance that we will generate significant revenues or achieve and sustain profitability in the future. In addition, we can provide no assurance that we will have sufficient funding to meet our future capital requirements. Statements contained in Management's Discussion and Analysis of Financial Condition and Results of Operations and elsewhere in this report which are not historical facts are, or may constitute, forward-looking statements. Forward-looking statements involve known and unknown risks that could cause our actual results to differ materially from expected results. The most significant known risks are discussed in the section entitled "Risk Factors." Although we believe the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. We caution you not to place undue reliance on any forward-looking statements.

Our revenues are difficult to predict and depend on numerous factors, including the prevalence and severity of influenza in regions for which peramivir has received regulatory approval, seasonality of influenza, commercialization efforts and resources dedicated to our products by our collaborative partners, ongoing discussions with government agencies regarding future peramivir and/or galidesivir development and stockpiling procurement, as well as entering into, or modifying, licensing agreements for our product candidates. Furthermore, revenues related to our collaborative development activities are dependent upon the progress toward and the achievement of developmental

milestones by us or our collaborative partners.

Our operating expenses are also difficult to predict and depend on several factors, including research and development expenses (and whether these expenses are reimbursable under government contracts), drug manufacturing, and clinical research activities, the ongoing requirements of our development programs, and the availability of capital and direction from regulatory agencies, which are difficult to predict. Management may be able to control the timing and level of research and development and general and administrative expenses, but many of these expenditures will occur irrespective of our actions due to contractually committed activities and/or payments.

As a result of these factors, we believe that period to period comparisons are not necessarily meaningful and you should not rely on them as an indication of future performance. Due to all of the foregoing factors, it is possible that our operating results will be below the expectations of market analysts and investors. In such event, the prevailing market price of our common stock could be materially adversely affected.

Overview

We are a biotechnology company that designs, optimizes and develops novel small molecule drugs that block key enzymes involved in the pathogenesis of diseases. We focus on oral treatments for rare diseases in which significant unmet medical needs exist and that align with our capabilities and expertise. We integrate the disciplines of biology, crystallography, medicinal chemistry and computer modeling to discover and develop small molecule pharmaceuticals through the process known as structure-guided drug design.

Critical Accounting Policies and Estimates

The accompanying discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements and the related disclosures, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosure of contingent assets and liabilities. We evaluate our estimates, judgments and the policies underlying these estimates on a periodic basis, as situations change, and regularly discuss financial events, policies, and issues with members of our audit committee and our independent registered public accounting firm. We routinely evaluate our estimates and policies regarding revenue recognition, administration, inventory and manufacturing, taxes, stock-based compensation, research and development, consulting and other expenses and any associated liabilities.

Recent Corporate Highlights

Agreement and Plan of Merger and Subsequent Event

As further described in Note 13 of the consolidated financial statements, in January 2018, we entered into an Agreement and Plan of Merger with Idera and affiliated entities, to form a new enterprise focused on the development and commercialization of medicines to serve patients suffering from rare diseases. We expect to consummate the Mergers in the second quarter of 2018. However, we have prepared our MD&A and these consolidated financial statements as if we are an independent company without giving effect to the Mergers.

On March 6, 2018, a purported stockholder of BioCryst filed a putative class action lawsuit against BioCryst, the BioCryst board of directors, Idera, Holdco, Merger Sub A and Merger Sub B in the United States District Court for the District of Delaware, captioned *Melvyn Klein v. BioCryst Pharmaceuticals, Inc., et al.*, Case No. 1:18-cv-00358-UNA. The complaint alleges that the defendants violated Sections 14(a) and 20(a) of the Exchange Act because the preliminary Form S-4 filed with the Securities and Exchange Commission allegedly contains material omissions and misstatements. The complaint seeks, among other things, injunctive relief preventing the consummation of the Mergers until additional disclosures are made, and damages. The defendants believe that the action is without merit.

RAPIVAB/RAPIACTA/PERAMIFLU/ALPIVAB (peramivir injection)

Peramivir (i.e., product sold or marketed under the RAPIVAB, RAPIACTA, and PERAMIFLU trade names) is approved for commercial sale in the United States, Canada, Japan, Taiwan and Korea and has a pending approval in the European Union. We receive royalty revenue from commercial and governmental stockpiling sales of the product from our partners with the exception of U.S. Government stockpiling sales for which we remain directly responsible.

On January 8, 2017, we announced that Health Canada approved RAPIVAB® for treatment of acute, uncomplicated influenza in Canada. The product is not currently available in Canada. We and Seqirus have entered into the formal dispute resolution process under the License Agreement to resolve decisions related to the collaboration.

On January 30, 2017, we announced that the European Medicines Agency ("EMA") accepted our Marketing Authorization Application ("MAA") for treatment of symptoms typical of influenza in adults 18 years and older. The acceptance of the MAA begins the review process by the EMA under the centralized licensing procedure for all 28 member states of the European Union, Norway and Iceland. On February 22, 2018, the CHMP adopted a positive opinion for the treatment of uncomplicated influenza in adults and children from the age of 2 years and thereby recommended the granting of a Marketing Authorization for ALPIVAB (peramivir). The final EMA decision is expected in the second quarter of 2018.

On September 21, 2017, we announced that the U.S. Food and Drug Administration ("FDA") had approved a supplemental New Drug Application for RAPIVAB (peramivir injection), extending its availability for the treatment of acute uncomplicated influenza to pediatric patients 2 years and older who have been symptomatic for no more than two days.

BCX7353

On September 5, 2017, we announced final results from the Phase 2 APeX-1 clinical trial in HAE patients. This final analysis evaluated data from all patients in Parts 1, 2 and 3 of the trial and evaluated four doses of BCX7353 ranging from 62.5 mg up to 350 mg for 28 days. The primary efficacy endpoint of APeX-1 was the number of angioedema attacks. Efficacy analyses were conducted for HAE attacks reported over the entire dosing interval (Days 1 through 28) and during the dosing period in which plasma concentrations of BCX7353 should be at steady-state conditions (Days 8 through 28). Secondary efficacy endpoints included severity and duration of angioedema attacks and measures of health-related quality of life. Safety was characterized through evaluation of adverse events and laboratory testing. Pharmacokinetics and pharmacodynamic effects were assessed through measurement of plasma drug levels and kallikrein inhibition.

Seventy-five subjects were randomized and included in the final analysis of pooled data from Parts 1, 2 and 3: 7 at 62.5 mg, 14 at 125 mg, 14 at 250 mg and 18 at 350 mg of BCX7353 QD; and 22 placebo. The qualifying attack rate was approximately 1/week. Baseline characteristics were generally well balanced across the treatment groups. Compliance with daily study drug dosing for 28 days was excellent (≥ 98% across all treatment groups). Subjects recorded angioedema symptoms in a diary; diary records were reviewed and attacks adjudicated by an independent expert group. The primary endpoint of the trial was the number of HAE attacks. The pre-specified per-protocol final analysis included data on a total of 67 subjects with Type 1 or Type 2 HAE completing > 90% of planned study drug doses. The percentage reductions by treatment group in the mean rate of angioedema attacks for the pre-defined effective dosing period (weeks 2 through 4) in BCX7353 treated subjects are indicated in the table below. Results from a pre-planned analysis of peripheral and abdominal attacks are also shown. Similar results to those shown were

seen in the analysis of weeks 1 through 4 and the intent-to-treat population.

Percentage change in attacks vs. placebo (p-Value)

Per protocol population, weeks 2-4 of treatment

	N	All Attacks	Peripheral Attacks	Abdominal Attacks
BCX7353 350 mg	14	-58% (p < 0.001)	-90% (p < 0.001)	-5% (p=0.884)
BCX7353 250 mg	12	-46% (p=0.006)	-66% (p=0.005)	-13% (p=0.700)
BCX7353 125 mg	13	-73% (p < 0.001)	-79% (p < 0.001)	-63% (p=0.048)
BCX7353 62.5 mg	7	-7% (p=0.715)	-25% (p=0.371)	+22% (p=0.578)

The 125 mg dose level showed statistically significant and similar benefit for all attacks, and also when split into abdominal attacks and peripheral attacks. In contrast, at the 250 mg and 350 mg dose levels, there was no statistically significant effect for abdominal attacks, despite strong and statistically significant effects on peripheral attacks. Based on these findings, it is likely that subjects in the 250 mg and 350 mg arms recorded transient drug-related abdominal AEs as HAE attack symptoms in their diary. As expected, the lowest dose tested (62.5 mg QD) showed no statistically significant differences in attack rates (total, or when split into abdominal and peripheral) compared with placebo. The range of doses studied and associated results complete the dose response evaluation required to inform Phase 3 dose selection.

An analysis of the proportion of subjects achieving levels of percent reduction in attacks was also performed; this analysis compared on-study attack rate to qualifying attack rate for each subject. Response levels were defined as reductions of ≥50%, ≥70%, or ≥90%. Results for all dose groups indicated that the dose group with the highest proportion of responders using each definition was the 125 mg group, and was 4 to 5 times greater than the proportion of responders in the placebo group. The proportion of responders in the 62.5 mg group was similar to placebo.

In addition, we performed an exploratory ad hoc analysis of the placebo, 62.5 mg QD and 125 mg QD dose groups to examine the relationship of change in attack rate to dose and the effect of achieving target drug levels. The 125 mg group had a mean change in attack rate of -0.73 per week (improvement from qualifying) compared to -0.07 attacks per week for placebo and -0.24 attacks per week for the 62.5 mg QD dose group. The effect of achieving the target drug level (equivalent to 4 times EC50 against plasma kallikrein) at trough measured at steady state on study day 15 was also explored for subjects randomized to the placebo, 62.5 mg and 125 mg levels. Placebo subjects were assigned a zero drug level value. Subjects were categorized as achieving or not achieving the target level and the proportion of subjects in each of these two categories who had responses of reductions in ≥50%, ≥70%, or ≥90% in attack rate was compared and the odds ratios calculated. The odds for subjects achieving ≥50%, ≥70%, or ≥90% responses if the target drug level was met or exceeded were 5.6, 12.9 and 26.4 times higher respectively than for subjects who did not meet or exceed target drug level.

A significant increase in the proportion of attack-free subjects was observed in the 125 mg QD dose group compared to placebo (46% versus 10%, p= 0.033). Furthermore, a clinically important and statistically significant improvement in patient quality of life total score, measured using the AE-QoL (Quality of Life) instrument, was seen in the 125 mg QD group compared to placebo (p < 0.001). The mean improvement in the 125 mg QD group was more than four times the minimum clinically important difference.

Oral BCX7353 once-daily for 28 days was generally safe and well tolerated in subjects with HAE. No new clinically significant safety findings were seen in Part 3 of the trial from the two earlier component parts of the trial. Overall in the entire trial, there was one serious adverse event of moderate gastrointestinal infection that was determined by the investigator not to be drug-related. Study drug was discontinued before day 28 in three subjects in the BCX7353 350 mg treatment arm (unrelated pre-existing liver disorder; related gastroenteritis with liver disorder; and related vomiting/abdominal cramps). The most common treatment-emergent AEs in descending order of frequency were the common cold, headache, diarrhea, nausea and abdominal pain. Gastrointestinal AEs were infrequent at the 125 mg and 62.5 mg dose levels, and there were no clinically significant laboratory abnormalities at these dose levels, though increases in liver enzymes were observed in several subjects at higher dose levels. Adverse events in the gastrointestinal system organ class were more frequent in the 350 mg QD and 250 mg QD dose groups compared to placebo. Elevated liver enzymes were reported in several subjects, and an analysis of liver enzyme safety tests including alanine aminotransferase (“ALT”) levels showed that of 4 subjects who had elevations of ALT to more than or equal to 3 times the upper limit of normal (“ULN”), all 4 had prior exposure to androgens, 3 were in the 350 mg QD group, 1 was in the 250 mg QD group, and 3 had baseline (prior to study drug administration) elevations in ALT of close to or greater than 3 times the ULN.

Steady state BCX7353 plasma levels and kallikrein inhibition levels were consistent with previous analyses. Steady state trough drug levels (24 hours after dosing) exceeded the proposed target threshold for efficacy of 4 times the 50% effective concentration (EC 50) of 9ng/ml in 0%, 64%, 100% and 100% of subjects at the 62.5 mg, 125 mg, 250 mg and 350 mg dose levels, respectively.

In the fourth quarter of 2017, we completed regulatory interactions with the FDA and EMA and reached agreement on the Phase 3 program requirements to support NDA and MAA submissions for prophylactic treatment of HAE with BCX7353. Based upon this agreement, we began screening patients in the APeX-S and APeX-2 clinical trials, which are the significant aspects of the remaining development program. Accordingly, we have initiated a 24-week randomized, double-blind, placebo-controlled Phase 3 clinical trial studying two doses of BCX7353 (“APeX-2”). Patients will roll-over into a 24-week safety extension. Separately, we initiated a long-term safety trial (“APeX-S”), which will enroll at least 160 patients who will be randomized to the two doses of BCX7353 included in APeX-2. Subjects will remain on study-drug for 48 weeks. On February 28, 2018, we announced that we had dosed the first patient in the APeX- S trial. We have received orphan drug status for BCX7353.

ZENITH-1 Trial: On August 2, 2017, we announced the dosing of the first subject into ZENITH-1, a clinical trial studying up to three dosage strengths of a liquid formulation of BCX7353 given as a single oral dose for the acute treatment of angioedema attacks in patients with HAE. ZENITH-1 is a randomized, double-blind, placebo-controlled, adaptive dose-ranging trial of the efficacy, safety and tolerability of BCX7353 for treatment of acute angioedema attacks, and will enroll up to 60 subjects with HAE. Blinded study drug is being dosed as an oral liquid after onset of symptoms, for up to 3 attacks in each subject, with each subject receiving both BCX7353 (for 2 attacks) and placebo (for one attack) in a randomized sequence. The trial is structured with up to 3 consecutive cohorts testing single doses of 750 mg 36 subjects), 500 mg (up to 12 subjects) and 250 mg (up to 12 subjects), starting with 750 mg. Efficacy assessments include patient-reported composite visual analogue scale (“VAS”) scores, patient global assessment, change in symptoms, and use of rescue medication. Treatment effect will be assessed on accumulating results, beginning after 12 subjects have completed study in the first cohort (750 mg), by comparing the proportion of BCX7353-treated and placebo-treated attacks which have a stable or improved composite VAS at 4 hours post dose. Enrollment has gone well with the trial thus far, and we have completed enrollment in the 750 mg cohort and have begun enrolling patients in the 500 mg cohort.

Galidesivir (formerly BCX4430)

After multiple discussions with the FDA, NIAID/HHS, and BARDA/HHS regarding the most appropriate future development path for galidesivir, we will focus our efforts on Marburg virus. While both Ebola and Marburg infections represent significant medical countermeasure (“MCM”) emergencies or threats to the United States, we have concluded the greatest unmet medical need is now to develop a MCM to address the threat of Marburg infection. Accordingly, we plan to open an IND for galidesivir i.v. for post-exposure prophylaxis and treatment of Marburg infection.

Results of Operations

Year Ended December 31, 2017 Compared to 2016

Total 2017 revenues decreased to $25.2 million as compared to 2016 revenues of $26.4 million. The decrease in 2017 revenue was primarily due to lower collaborative revenue under U.S. Government development contracts as well as lower revenue from product sales to corporate partners. These decreases were largely offset by $7.0 million of milestone payments associated with U.S. pediatric and Canadian regulatory approvals of RAPIVAB. Revenues in 2017 included $1.5 million of peramivir product revenue from inventory sales to our commercial partners, $10.5 million of royalty revenue from SUL, Shionogi and Green Cross associated with sales of peramivir in the United States, Japan, Korea and Taiwan, $4.7 million of reimbursement of collaborative expenses from NIAID/HHS and BARDA/HHS development contracts and $8.5 million associated with milestone revenue and collaborative revenue amortization from other corporate partnerships. Revenues in 2016 included $2.3 million of peramivir product revenue from inventory sales to our commercial partners, $9.7 million of royalty revenue from SUL, Shionogi and Green Cross associated with sales of peramivir in the United States, Japan, Korea and Taiwan, $9.5 million of reimbursement of collaborative expenses from NIAID/HHS and BARDA/HHS related to the development of galidesivir, $2.9 million of reimbursement of collaborative expenses from BARDA/HHS related to the development of RAPIVAB and $1.8 million associated with collaborative revenue amortization from other corporate partnerships. With the expiration of BARDA/HHS peramivir contract, unless we enter into new government contracts, all significant and future reimbursement of collaborative expenses will be under the NIAID/HHS and BARDA/HHS galidesivir development contracts. Our future RAPIVAB revenue will be difficult to predict because of volatility in prevalence, timing and severity of influenza season to season as well as variable commercialization efforts and resources dedicated to our products by our collaborative partners.

Research and Development (“R&D”) expenses increased to $67.0 million in 2017 from $61.0 million in 2016. The increase in 2017 R&D expenses, as compared to 2016, reflects increased spending on our HAE program partially associated with the achievement of a vesting condition pursuant to outstanding performance-based stock options related to the successful completion of the APeX-1 clinical trial, as well as an increase in R&D personnel. In addition, there was a higher level of preclinical development effort and expense dedicated to our two preclinical programs, including our FOP program, than in previous years. These increases were somewhat offset by a decrease in galidesivir expenses under U.S. Government development contracts.

The following table summarizes our R&D expenses for the periods indicated (amounts are in thousands).

	2017	2016	2015
R&D expenses by program:			
Avoralstat	$—	$13,433	$27,769
BCX7353	40,974	21,410	11,819
Other 2nd generation HAE compounds	1,111	1,139	9,320
Galidesivir	3,757	9,458	12,400
Peramivir	4,872	5,552	3,690
Other research, preclinical and development costs	16,248	10,016	7,760
Total R&D expenses	$66,962	$61,008	$72,758

R&D expenses include all direct and indirect expenses and are allocated to specific programs at the point of development of a lead product candidate. Direct expenses are charged directly to the program to which they relate and indirect expenses are allocated based upon internal direct labor hours dedicated to each respective program. Direct expenses consist of compensation for R&D personnel and costs of outside parties to conduct laboratory studies, develop manufacturing processes, manufacture the product candidates, conduct and manage clinical trials, as well as other costs related to our clinical and preclinical studies. Indirect R&D expenses consist of lab supplies and services, facility expenses, depreciation of development equipment and other overhead of our research and development efforts. R&D expenses vary according to the number of programs in clinical development and the stage of development of our clinical programs. Later stage clinical programs tend to cost more than earlier stage programs due to the longer length of time of the clinical trials and the higher number of patients enrolled in these clinical trials.

Selling, General and Administrative (“SG&A”) expenses increased to $13.9 million in 2017 compared to $11.3 million in 2016. The increase of $2.6 million was due to the achievement of a vesting condition pursuant to outstanding performance-based stock options related to the successful completion of the APeX-1 clinical trial as well as business development and merger-related costs associated with our combination with Idera.

Interest expense increased to $8.6 million in 2017 primarily associated with our execution of a $23.0 million Senior Credit Facility with an affiliate of MidCap Financial Services, LLC (“MidCap”) in September 2016 (the “Senior Credit Facility”), as compared to $6.5 million in 2016. In addition, a mark to market loss of $1.8 million was recognized in 2017 related to the foreign currency hedge entered into in conjunction with the royalty monetization transaction, compared to a mark to market loss of $1.7 million in 2016, both resulting from changes in the U.S. dollar/Japanese yen exchange rate during the respective years. In addition, realized currency exchange gains of $1.0 million and $0.8 million were recognized in 2017 and 2016, respectively, related to the exercise of a U.S. dollar/Japanese yen currency option under our foreign currency hedge. We entered into a foreign currency hedge agreement to hedge changes in the value of the Japanese yen relative to the U.S. dollar. The currency hedge does not qualify for hedge accounting treatment and therefore mark to market adjustments are recognized in our Consolidated Statements of Comprehensive Loss. Although we cannot predict the future yen/dollar exchange rate, the applicable foreign currency rates moved such that we currently have no collateral posted; however, it is possible that collateral will be required to be posted in the future. We are unable to predict future changes in the yen/dollar exchange rate or increases/decreases in our hedge gains/losses associated with the currency hedge agreement.

Year Ended December 31, 2016 Compared to 2015

Total 2016 revenues decreased to $26.4 million as compared to 2015 revenues of $48.3 million. The decrease in 2016 revenues, as compared to 2015, was primarily due to the peramivir out-licensing transaction to Seqirus, which resulted in the recognition of $21.8 million of collaborative revenue in 2015 and a $4.0 million decrease in 2016 peramivir product sales, as well as a reduction in collaboration revenue associated with lower galidesivir development activity in 2016. All of these decreases were slightly offset by a $7.3 million increase in 2016 peramivir royalty revenue derived from BioCryst's commercial partners. A component of the peramivir royalty revenue was $5.7 million of Japanese government stockpiling revenue that is available for general corporate use. Although these orders provided a significant cash infusion, stockpiling royalty revenues may not recur on an annual basis as they are subject to the Japanese government's appropriation and stockpiling process, which is difficult to predict. Revenues in 2016 included $2.3 million of peramivir product revenue from inventory sales to our commercial partners, $9.7 million of royalty revenue from SUL, Shionogi and Green Cross associated with sales of peramivir in the United States, Japan, Korea and Taiwan, $9.5 million of reimbursement of collaborative expenses from NIAID/HHS and BARDA/HHS related to the development of galidesivir, $2.9 million of reimbursement of collaborative expenses from BARDA/HHS related to the development of RAPIVAB and $1.8 million associated with collaborative revenue amortization from other corporate partnerships. The 2015 revenue consisted of $5.7 million of RAPIVAB product revenue and $21.8 million of collaborative revenue related to the SUL Agreement, $2.4 million of royalty revenue from SUL, Shionogi and Green Cross associated with sales of peramivir in the United States, Japan and Korea, $16.3 million of reimbursement of collaborative expenses from BARDA/HHS and NIAID/HHS related to the development of peramivir and galidesivir, and $1.4 million associated with collaborative revenue amortization from other corporate partnerships. In addition, we recorded approximately $0.6 million of RAPIVAB revenue under the "Sell-Through" revenue recognition methodology, but going forward we will recognize all future commercial RAPIVAB sales as royalty revenue under one of our partnership arrangements.

Research and Development ("R&D") expenses decreased to $61.0 million in 2016 from $72.8 million in 2015. The decrease in 2016 R&D expenses, as compared to 2015, reflects lower spending on our HAE portfolio of compounds associated with the discontinuation of avoralstat development.

Selling, General and administrative ("SG&A") expenses decreased to $11.3 million in 2016 compared to $13.0 million in 2015. The decrease of $1.7 million was primarily due to lower unrestricted grants awarded to HAE patient advocacy groups, as well as a general reduction of administrative expenses in 2016.

Interest expense increased to $6.5 million in 2016 primarily associated with our execution of the Senior Credit Facility with MidCap, as compared to $5.2 million in 2015. In addition, a mark to market loss of $1.7 million was recognized in 2016 related to the foreign currency hedge entered into in conjunction with the royalty monetization transaction, compared to a mark to market loss of $0.6 million in 2015, both resulting from changes in the U.S. dollar/Japanese yen exchange rate during the respective years. In addition, realized currency exchange gains of $0.8 million and $1.7 million were recognized in 2016 and 2015, respectively, related to the exercise of a U.S. dollar/Japanese yen currency option under our foreign currency hedge. Thus, a resulting net loss of $0.8 million is recognized on our foreign currency derivative for 2016 compared to a net gain of $1.1 million for 2015.

Liquidity and Capital Resources

Cash expenditures have exceeded revenues since our inception and we expect our 2018 operating expenses to exceed our 2018 revenues. Our operations have principally been funded through public offerings and private placements of equity securities; cash from collaborative and other research and development agreements, including U.S. Government contracts for RAPIVAB and galidesivir; and to a lesser extent, the PhaRMA Notes financing and the Senior Credit Facility. To date, we have been awarded a BARDA/HHS RAPIVAB development contract totaling $234.8 million, which expired on June 30, 2014, a NIAID/HHS galidesivir development contract totaling $39.5 million, which is ongoing, and a BARDA/HHS galidesivir development contract totaling $39.1 million, which is also ongoing. The total amount of NIAID/HHS and BARDA/HHS galidesivir funding obligated under awarded options is $39.5 million and $20.6 million, respectively. We may issue securities through private placement transactions or registered public offerings pursuant to a registration statement filed with the SEC. In addition to the above, we have received funding from other sources, including other collaborative and other research and development agreements; government grants; equipment lease financing; facility leases; research grants; and interest income on our investments.

As of December 31, 2017, we had net working capital of $50.6 million, an increase of approximately $38.0 million from $12.6 million at December 31, 2016. The increase in working capital was principally due to proceeds from two public offerings of common stock partially offset by our normal operating expenses associated with the development of our product candidates. Our principal sources of liquidity at December 31, 2017 were approximately $50.3 million in cash and cash equivalents and approximately $105.4 million in investments considered available-for-sale. We anticipate our cash and investments will fund our operations at least through the third quarter of 2019.

We intend to contain costs and cash flow requirements by closely managing our third party costs and headcount, leasing scientific equipment and facilities, contracting with other parties to conduct certain research and development projects and using consultants. We expect to incur additional expenses, potentially resulting in significant losses, as we continue to pursue our research and development activities and begin to build a commercial infrastructure. We may incur additional expenses related to the filing, prosecution, maintenance, defense and enforcement of patent and other intellectual property claims and additional regulatory costs as our clinical programs advance through later stages of development. The objective of our investment policy is to ensure the safety and preservation of invested funds, as well as maintaining liquidity sufficient to meet cash flow requirements. We place our excess cash with high credit quality financial institutions, commercial companies, and government agencies in order to limit the amount of our credit exposure. We have not realized any significant losses on our investments.

We plan to finance our needs principally from the following:

- lease or loan financing and future public or private equity financing;
- our existing capital resources and interest earned on that capital;
- payments under existing and executing new contracts with the U.S. Government; and
- payments under collaborative and licensing agreements with corporate partners.

As our programs continue to advance, our costs will increase. Our current and planned clinical trials, plus the related development, manufacturing, regulatory approval process requirements and additional personnel resources and testing required for the continuing development of our product candidates will consume significant capital resources and will increase our expenses. Our expenses, revenues and cash utilization rate could vary significantly depending on many factors, including our ability to raise additional capital, the development progress of our collaborative agreements for our product candidates, the amount and timing of funding we receive from existing U.S. Government contracts for galidesivir, the amount of funding or assistance, if any, we receive from new U.S. Government contracts or other new partnerships with third parties for the development and or commercialization of our product candidates, the progress and results of our current and proposed clinical trials for our most advanced product candidates, the progress made in the manufacturing of our lead product candidates and the progression of our other programs.

With the funds available at December 31, 2017, we believe these resources will be sufficient to fund our operations at least through the third quarter of 2019. We have sustained operating losses for the majority of our corporate history and expect that our 2018 expenses will exceed our 2018 revenues. We expect to continue to incur operating losses and negative cash flows until revenues reach a level sufficient to support ongoing operations. Accordingly, our planned operations raise doubt about our ability to continue as a going concern beyond the third quarter of 2019. Our liquidity needs will be largely determined by the success of operations in regards to the progression of our product candidates in the future. We also may consider other plans to fund operations beyond the third quarter of 2019 including: (1) securing or increasing U.S. Government funding of our programs, including obtaining procurement contracts; (2) out-licensing rights to certain of our products or product candidates, pursuant to which the we would receive cash milestones; (3) raising additional capital through equity or debt financings or from other sources; (4) obtaining additional product candidate regulatory approvals, which would generate revenue, milestones and cash flow; (5) reducing spending on one or more research and development programs, including by discontinuing development; and/or (6) restructuring operations to change our overhead structure. We may issue securities, including common stock, preferred stock, depositary shares, stock purchase contracts, warrants and units, through private placement transactions or registered public offerings. Our future liquidity needs, and ability to address those needs, will largely be determined by the success of our product candidates and key development and regulatory events and our decisions in the future.

Our long-term capital requirements and the adequacy of our available funds will depend upon many factors, including:

- our ability to perform under our government contracts and receive reimbursement, and receive stockpiling procurement contracts;
- the magnitude of work under our government contracts;
- the progress and magnitude of our research, drug discovery and development programs;
- changes in existing collaborative relationships or government contracts;
- our ability to establish additional collaborative relationships with academic institutions, biotechnology or pharmaceutical companies and governmental agencies or other third parties;
- the extent to which our partners, including governmental agencies, will share in the costs associated with the development of our

programs or run the development programs themselves;

- our ability to negotiate favorable development and marketing strategic alliances for certain product candidates or a decision to build or expand internal development and commercial capabilities;
- successful commercialization of marketed products by either us or a partner;
- the scope and results of preclinical studies and clinical trials to identify and develop product candidates;
- our ability to engage sites and enroll subjects in our clinical trials;
- the scope of manufacturing of our product candidates to support our preclinical research and clinical trials;
- increases in personnel and related costs to support the development and commercialization of our product candidates;
- the scope of manufacturing of our drug substance and product candidates required for future NDA filings;
- competitive and technological advances;
- the time and costs involved in obtaining regulatory approvals;
- post-approval commitments for RAPIVAB and other products that receive regulatory approval; and
- the costs involved in all aspects of intellectual property strategy and

protection including the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims.

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We expect that we will be required to raise additional capital to complete the development and commercialization of our current product candidates and we may seek to raise capital in the future. Additional funding, whether through additional sales of equity or debt securities, collaborative or other arrangements with corporate partners or from other sources, including governmental agencies in general and existing government contracts specifically, may not be available when needed or on terms acceptable to us. The issuance of preferred or common stock or convertible securities, with terms and prices significantly more favorable than those of the currently outstanding common stock, could have the effect of diluting or adversely affecting the holdings or rights of our existing stockholders. In addition, collaborative arrangements may require us to transfer certain material rights to such corporate partners. Insufficient funds may require us to delay, scale back or eliminate certain of our research and development programs. Our future working capital requirements, including the need for additional working capital, will be largely determined by the advancement of our portfolio of product candidates as well as rate of reimbursement by U.S. Government agencies of our galidesivir expenses and any future decisions regarding the future of the RAPIVAB and galidesivir programs, including those relating to stockpiling procurement. More specifically, our working capital requirements will be dependent on the number, magnitude, scope and timing of our development programs; regulatory approval of our product candidates; obtaining funding from collaborative partners; the cost, timing and outcome of regulatory reviews, regulatory investigations, and changes in regulatory requirements; the costs of obtaining patent protection for our product candidates; the timing and terms of business development activities; the rate of technological advances relevant to our operations; the efficiency of manufacturing processes developed on our behalf by third parties; and the level of required administrative support for our daily operations.

The restrictive covenants contained in the Senior Credit Facility could cause us to be unable to pursue business opportunities that we or our stockholders may consider beneficial without the lender’s permission or without repaying all Senior Credit Facility obligations. These covenants limit our ability to, among other things, convey, sell, lease, license, transfer or otherwise dispose of certain parts of our business or property; change the nature of our business; liquidate or dissolve; enter into certain change in control or acquisition transactions; incur or assume certain debt; grant certain types of liens on our assets; modify, liquidate or transfer assets in certain collateral accounts; pay dividends or make certain distributions to our stockholders; make certain investments; enter into material transactions with affiliates; and modify existing debt or collaboration arrangements. A breach of any of these covenants could result in an event of default under the Senior Credit Facility.

Financial Outlook for 2018

Based upon our development plans, expected stand-alone operations and our awarded government contracts, we expect 2018 operating cash usage to be in the range of $67 to $90 million, and expect our total 2018 operating expenses to be in the range of $85 to $110 million. Our operating expense range excludes equity-based compensation expense due to the difficulty in accurately projecting this expense as it is significantly impacted by the volatility and price of the Company’s stock, as well as vesting of the Company’s outstanding performance-based stock options. Our operating cash forecast excludes any impact of our royalty monetization, hedge collateral posted or returned, and any other non-routine cash outflows or inflows. Our ability to remain within our operating expense and operating cash target ranges is subject to multiple factors, including unanticipated or additional general development and administrative costs and other factors described under the Risk Factors located elsewhere in this report.

Off-Balance Sheet Arrangements

As of December 31, 2017, we are not involved in any unconsolidated entities or off–balance sheet arrangements.

Contractual Obligations

In the table below, we set forth our enforceable and legally binding obligations and future commitments and obligations related to all contracts that we are likely to continue regardless of the fact that they are cancelable as of December 31, 2017. Some of the amounts we include in this table are based on management's estimates and assumptions about these obligations, including their duration, the possibility of renewal, anticipated actions by third parties, and other factors. Because these estimates and assumptions are necessarily subjective, the obligations we will actually pay in future periods may vary from those reflected in the table.

	Payments Due by Period (In thousands)				
Contractual Obligations	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Operating lease obligations	$6,153	$1,169	$2,016	$969	$1,999
Purchase obligations(1)	39,559	39,559	—	—	—
Contingent license obligations	1,550	225	425	300	600
Non-recourse notes payable(2)	54,154	16,104	38,050	—	—
Senior credit facility	27,536	8,610	15,435	3,491	—
Total	$128,952	$65,667	$55,926	$4,760	$2,599

(1) Purchase obligations include commitments related to clinical development, manufacturing and research operations and other purchase commitments.

(2) Assumes the PhaRMA Notes will be repaid at maturity and the related interest costs will accrue and be paid annually through maturity. This assumption is based on the unpredictable nature of the royalty payments from Shionogi, which are designated for both principal and interest payments on the PhaRMA Notes.

Under the Currency Hedge Agreement, we have the right to purchase dollars and sell yen at a rate of 100 yen per dollar for which we may be required to pay a premium in each year from 2018 through 2020. A payment of $2.0 million will be required if, during the relevant year, the dollar is worth 100 yen or less. As of December 31, 2017, we have no hedge collateral posted against the Currency Hedge Agreement. Because the posting of additional collateral and payment of annual premiums is contingent on the value of the yen relative to the dollar and other factors, such payments have been excluded from the foregoing table.

In addition to the above, we have committed to make potential future "sublicense" payments to third-parties as part of in-licensing and development programs. Payments under these agreements generally become due and payable only upon achievement of certain developmental, regulatory and/or commercial milestones. Because the achievement of these milestones is neither probable nor reasonably estimable, such contingencies have not been recorded on our balance sheet.

Critical Accounting Policies

We have established various accounting policies that govern the application of U.S. GAAP, which were utilized in the preparation of our consolidated financial statements. Certain accounting policies involve significant judgments and assumptions by management that have a material impact on the carrying value of certain assets and liabilities. Management considers such accounting policies to be critical accounting policies. The judgments and assumptions used by management are based on historical experience and other factors, which are believed to be reasonable under the circumstances. Because of the nature of the judgments and assumptions made by management, actual results could differ from these judgments and estimates, which could have a material impact on the carrying values of assets and liabilities and the results of operations.

While our significant accounting policies are more fully described in Note 1 to our consolidated financial statements included in this Annual Report on Form 10-K for the year ended December 31, 2017, we believe that the following accounting policies are the most critical to aid you in fully understanding and evaluating our reported financial results and affect the more significant judgments and estimates that we use in the preparation of our financial statements.

Inventory

Our inventories consist of peramivir finished goods and work in process, which are valued at the lower of cost or market using the first-in, first-out (i.e., FIFO) method. Cost includes materials, labor, overhead, shipping and handling costs. Our inventories are subject to expiration dating. We regularly evaluate the carrying value of our inventories and provide valuation reserves for any estimated obsolete, short-dated or unmarketable inventories. In addition, we may experience spoilage of our raw materials and supplies. Our determination that a valuation reserve might be required, in addition to the quantification of such reserve, requires us to utilize significant judgment. In connection with the FDA approval of RAPIVAB and other regulatory approvals, we began capitalizing costs associated with the production of peramivir inventories.

Accrued Expenses

We enter into contractual agreements with third-party vendors who provide research and development, manufacturing, and other services in the ordinary course of business. Some of these contracts are subject to milestone-based invoicing and services are completed over an extended period of time. We record liabilities under these contractual commitments when an obligation has been incurred. This accrual process involves reviewing open contracts and purchase orders, communicating with our applicable personnel to identify services that have been performed and estimating the level of service performed and the associated cost when we have not yet been invoiced or otherwise notified of actual cost. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued expenses as of each balance sheet date based on the facts and circumstances known to us. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. Examples of estimated accrued expenses include:

- fees paid to Clinical Research Organizations (“CROs”) in connection with preclinical and toxicology studies and clinical trials;
- fees paid to investigative sites in connection with clinical trials;
- fees paid to contract manufacturers in connection with the production of our raw materials, drug substance and product candidates; and
- professional fees.

We base our expenses related to clinical trials on our estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and CROs that conduct and manage clinical trials on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of clinical trial milestones. In accruing service fees, we estimate the time period over which services will be performed and the level of effort expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we will adjust the accrual accordingly. If we do not identify costs that we have begun to incur or if we underestimate or overestimate the level of these costs, our actual expenses could differ from our estimates.

Revenue Recognition

We recognize revenues from collaborative and other research and development arrangements and product sales. Revenue is realized or realizable and earned when all of the following criteria are met: (i) persuasive evidence of an arrangement exists; (ii) delivery has occurred or services have been rendered; (iii) the seller's price to the buyer is fixed or determinable; and (iv) collectability is reasonably assured.

Collaborative and Other Research and Development Arrangements and Royalties

Revenue from license fees, royalty payments, event payments, and research and development fees are recognized as revenue when the earnings process is complete and we have no further continuing performance obligations or we have completed the performance obligations under the terms of the agreement. Fees received under licensing agreements that are related to future performance are deferred and recognized over an estimated period determined by management based on the terms of the agreement and the products licensed. In the event a license agreement contains multiple deliverables, we evaluate whether the deliverables are separate or combined units of accounting. Revisions to revenue or profit estimates as a result of changes in the estimated revenue period are recognized prospectively.

Under certain of our license agreements, we receive royalty payments based upon our licensees' net sales of covered products. We recognize royalty revenues when we can reliably estimate such amounts and collectability is reasonably assured. Royalty revenue paid by Shionogi on their product sales is subject to returns.

For arrangements that involve the delivery of more than one element, each product, service and/or right to use assets is evaluated to determine whether it qualifies as a separate unit of accounting. This determination is based on whether the deliverable has "stand-alone value" to the customer. The consideration that is fixed or determinable is then allocated to each separate unit of accounting based on the relative selling price of each deliverable. The estimated selling price of each deliverable is determined using the following hierarchy of values: (i) vendor-specific objective evidence of fair value, (ii) third-party evidence of selling price ("TPE") and (iii) best estimate of selling price ("BESP"). The BESP reflects our best estimate of what the selling price would be if the deliverable was regularly sold by us on a stand-alone basis. In most cases we expect to use TPE or BESP for allocating consideration to each deliverable. The

consideration allocated to each unit of accounting is recognized as the related goods or services are delivered, limited to the consideration that is not contingent upon future deliverables. Analyzing the arrangement to identify deliverables requires the use of judgment, and each deliverable may be an obligation to deliver services, a right or license to use an asset, or another performance obligation.

In June 2015, we entered into a License Agreement (the "SUL Agreement") granting SUL and its affiliates worldwide rights, excluding Israel, Japan, Korea and Taiwan, to develop, manufacture and commercialize RAPIVAB. The SUL Agreement provides for various types of payments, including a non-refundable upfront fee, milestone payments, and future royalties. Analysis of the SUL Agreement identified three deliverables: (i) license rights, (ii) inventory and (iii) regulatory support to obtain Canadian and EU marketing approvals. We received an upfront payment of $33.7 million from SUL of which $7.0 million was determined to be contingent upon EU marketing approval and will be deferred until that time. Approximately $21.8 million of the upfront payment was allocated to the license rights and recognized as revenue in the second quarter. Approximately $3.7 million of the upfront payment was allocated to the sale of inventory and was recognized in the third quarter when the inventory transfer was completed. Approximately $1.2 million of the revenue from the SUL Agreement was recognized ratably over the expected period of involvement in regulatory support activities.

Milestone payments are recognized as licensing revenue upon the achievement of specified milestones if (i) the milestone is substantive in nature and the achievement of the milestone was not reasonably assured at the inception of the SUL Agreement; and (ii) the fees are non-refundable. Any milestone payments received prior to satisfying these revenue recognition criteria are recorded as deferred revenue.

During 2017, we received a $2.0 million milestone payment related to the approval of RAPIVAB by Health Canada and a $5.0 million milestone payment associated with the FDA approval of a supplemental new drug application (“sNDA”) for RAPIVAB extending its availability for the treatment of acute uncomplicated influenza to pediatric patients two years and older. We evaluated each event based payment under the provisions of ASU 2010-17, Milestone Method of Revenue Recognition, and determined that each event based payment met the criteria to be considered substantive and represents a milestone under the milestone method of accounting. Under the terms of the SUL Agreement, we may receive an additional $5.0 million payment related to the successful marketing approval by the EMA for an adult indication in the EU. No event-based payments were achieved during 2016.

Reimbursements received for direct out-of-pocket expenses related to research and development costs are recorded as revenue in the income statement rather than as a reduction in expenses. Under our contracts with BARDA/HHS and NIAID/HHS, revenue is recognized as reimbursable direct and indirect costs are incurred.

Product Sales

We recognize revenue for sales of RAPIVAB when title and substantially all the risks and rewards of ownership have transferred to the customer, which generally occurs on the date of shipment from our specialty distributors, utilizing the Sell-Through revenue recognition methodology. Product sales are recognized when there is persuasive evidence that an arrangement exists, title has passed, the price was fixed and determinable, and collectability is reasonably assured. Product sales are recognized net of estimated allowances, discounts, sales returns, chargebacks and rebates. In the United States, prior to completion of the SUL transaction, we sold RAPIVAB to specialty distributors, who, in turn, sell to physician offices, hospitals and federal, state and commercial health care organizations. With the completion of the SUL worldwide license of RAPIVAB, SUL will be responsible for sales of RAPIVAB, other than U.S. Government stockpiling sales and the sale of inventory from us to peramivir commercial partners. With the completion of the SUL collaboration, all peramivir third-party sales (i.e., RAPIVAB, RAPIACTA, and PERAMIFLU) will be made by the Company's partners, except for U.S. Government stockpiling sales, and the Company will be reliant on these partners to generate sales and provide for sales discounts and rebates.

Sales deductions consist of statutory rebates to state Medicaid, Medicare and other government agencies and sales discounts (including trade discounts and distribution service fees). These deductions are recorded as reductions to revenue from RAPIVAB in the same period as the related sales with estimates of future utilization derived from historical experience adjusted to reflect known changes in the factors that impact such reserves.

We utilize data from external sources to help estimate gross-to-net sales adjustments as they relate to the recognition of revenue for RAPIVAB sold. External sourced data includes, but is not limited to, information obtained from specialty distributors with respect to their inventory levels and sell-through to customers, and information from third-party suppliers of market research data to the pharmaceutical industry.

We have categorized and described more fully the following significant sales deductions, all of which involve estimates and judgments, which we consider to be critical accounting estimates, and requires us to use information from external sources.

Rebates and Chargebacks

Statutory rebates to state Medicaid agencies and Medicare are based on statutory discounts to RAPIVAB's selling price. As it can take up to nine months or more for information to be received on actual usage of RAPIVAB in

Medicaid and other governmental programs, we maintain reserves for amounts payable under these programs relating to RAPIVAB sales.

Chargebacks claimed by specialty distributors are based on the differentials between product acquisition prices paid by the specialty distributors and lower government contract pricing paid by eligible customers covered under federally qualified programs.

The amount of the reserve for rebates and chargebacks is based on multiple qualitative and quantitative factors, including the historical and projected utilization levels, historical payment experience, changes in statutory laws and interpretations as well as contractual terms, product pricing (both normal selling prices and statutory or negotiated prices), changes in prescription demand patterns and utilization of our product through public benefit plans, and the levels of RAPIVAB inventory in the distribution channel. We acquire prescription utilization data from third-party suppliers of market research data to the pharmaceutical industry. We update our estimates and assumptions each period and record any necessary adjustments to reserves. Settlements of rebates and chargebacks typically occur within nine months from point of sale. To the extent actual rebates and chargebacks differ from our estimates, additional reserves may be required or reserves may need to be reversed, either of which would impact current period product revenue.

Discounts and Sales Incentives

Discounts and other sales incentives primarily consist of Inventory Management Agreement (“IMA”) fees. Per contractual agreements with our specialty distributors, we provide an IMA fee based on a percentage of their purchases of RAPIVAB. The IMA fee rates are set forth in our individual contracts. We track sales to our specialty distributors each period and accrue a liability relating to the unpaid portion of these fees by applying contractual rates to such sales.

Product Returns

We do not record a product return allowance as we do not offer the ability to return goods once a bona fide shipment has been accepted by a specialty distributor.

Research and Development Expenses

Our research and development costs are charged to expense when incurred. Advance payments for goods or services that will be used or rendered for future research and development activities are deferred and capitalized. Such amounts are recognized as expense when the related goods are delivered or the related services are performed. Research and development expenses include, among other items, personnel costs, including salaries and benefits, manufacturing costs, clinical, regulatory, and toxicology services performed by CROs, materials and supplies, and overhead allocations consisting of various administrative and facilities related costs. Most of our manufacturing and clinical and preclinical studies are performed by third-party CROs. Costs for studies performed by CROs are accrued by us over the service periods specified in the contracts and estimates are adjusted, if required, based upon our on-going review of the level of services actually performed.

Additionally, we have license agreements with third parties, such as AECOM, IRL, and UAB, which require fees related to sublicense agreements or maintenance fees. We expense sublicense payments as incurred unless they are related to revenues that have been deferred, in which case the expenses are deferred and recognized over the related revenue recognition period. We expense maintenance payments as incurred.

Deferred collaboration expenses represent sub-license payments paid to our academic partners upon receipt of consideration from various commercial partners, and other consideration to our academic partners for modification to existing license agreements. These deferred expenses would not have been incurred without receipt of such payments or modifications from our commercial partners and are being expensed in proportion to the related revenue being recognized. We believe that this accounting treatment appropriately matches expenses with the associated revenue.

We group our R&D expenses into two major categories: direct external expenses and indirect expenses. Direct expenses consist of compensation for R&D personnel and costs of outside parties to conduct laboratory studies, develop manufacturing processes and manufacture the product candidate, conduct and manage clinical trials, as well as other costs related to our clinical and preclinical studies. These costs are accumulated and tracked by active program. Indirect expenses consist of lab supplies and services, facility expenses, depreciation of development equipment and other overhead of our research and development efforts. These costs apply to work on non-active product candidates and our discovery research efforts.

Stock-Based Compensation

All share-based payments, including grants of stock option awards and restricted stock unit awards, are recognized in our Consolidated Statements of Comprehensive Loss based on their fair values. Stock-based compensation cost is estimated at the grant date based on the fair value of the award and is recognized as expense on a straight-line basis over the requisite service period of the award. Determining the appropriate fair value model and the related assumptions for the model requires judgment, including estimating the life of an award, the stock price volatility, and the expected term. We utilize the Black-Scholes option-pricing model to value our awards and recognize compensation expense on a straight-line basis over the vesting periods. The estimation of share-based payment awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the period estimates are revised. In addition, we have outstanding performance-based stock options for which no compensation expense is recognized until "performance" has occurred. Significant management judgment is also required in determining estimates of future stock price volatility and forfeitures to be used in the valuation of the options. Actual results, and future changes in estimates, may differ substantially from our current estimates.

Foreign Currency Hedge

In connection with our issuance of the PhaRMA Notes, we entered into a foreign Currency Hedge Agreement to hedge certain risks associated with changes in the value of the Japanese yen relative to the U.S. dollar. Under the Currency Hedge Agreement, we have the right to purchase dollars and sell yen at a rate of 100 yen per dollar for which we may be required to pay a premium in each year from 2018 through 2020, provided the Currency Hedge Agreement remains in effect. A payment of $2.0 million will be required if, on May 18 of the relevant year, the U.S. dollar is worth 100 yen or less as determined in accordance with the Currency Hedge Agreement. In conjunction with establishing the Currency Hedge Agreement, we will be required to post collateral to the counterparty, which may cause us to experience additional quarterly volatility in our financial results. We will not be required at any time to post collateral exceeding the maximum premium payments remaining payable under the Currency Hedge Agreement. As of December 31, 2017, the maximum amount of hedge collateral we may be required to post is $5.9 million.

The Currency Hedge Agreement does not qualify for hedge accounting treatment and therefore mark to market adjustments will be recognized in our Consolidated Statements of Comprehensive Loss. Mark to market adjustments are determined by quoted prices in markets that are not actively traded and for which significant inputs are observable directly or indirectly, representing the Level 2 in the fair value hierarchy as defined by generally accepted accounting principles ("U.S. GAAP"). The Company is also required to post collateral in connection with the mark to market adjustments based on defined thresholds. As of December 31, 2017, no collateral was posted under the agreement.

Tax

We account for uncertain tax positions in accordance with U.S. GAAP. Significant management judgment is required in determining our provision for income taxes, deferred tax assets and liabilities and any valuation allowance recorded against net deferred tax assets. We have recorded a valuation allowance against all potential tax assets, due to uncertainties in our ability to utilize deferred tax assets, primarily consisting of certain net operating losses carried forward, before they expire. The valuation allowance is based on estimates of taxable income in each of the jurisdictions in which we operate and the period over which our deferred tax assets will be recoverable.

Impact of Inflation

We do not believe that our operating results have been materially impacted by inflation during the past three years. However, we cannot be assured that our operating results will not be adversely affected by inflation in the future. We will continually seek to mitigate the adverse effects of inflation on the services that we use through improved operating efficiencies and cost containment initiatives.

Recent Accounting Pronouncements

Note 12 to the Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K discusses accounting pronouncements recently issued or proposed but not yet required to be adopted.

ITEM 7A. ***QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.***

Interest Rate Risk

We are subject to interest rate risk on our investment portfolio and borrowings under our fixed-interest rate PhaRMA Notes and our variable-interest rate Senior Credit Facility. The interest rate applicable to our borrowings under the PhaRMA Notes is fixed at 14% and the Senior Credit Facility bears a floating interest rate based on LIBOR. Increases in interest rates could therefore increase the associated interest payments that we are required to make on the Senior Credit Facility. As of December 31, 2017, our Senior Credit Facility had an interest rate of 9.4%.

We invest in marketable securities in accordance with our investment policy. The primary objectives of our investment policy are to preserve capital, maintain proper liquidity to meet operating needs and maximize yields. Our

investment policy specifies credit quality standards for our investments and limits the amount of credit exposure to any single issue, issuer or type of investment. We place our excess cash with high credit quality financial institutions, commercial companies, and government agencies in order to limit the amount of credit exposure. Some of the securities we invest in may have market risk. This means that a change in prevailing interest rates may cause the principal amount of the investment to fluctuate.

Our investment exposure to market risk for changes in interest rates relates to the increase or decrease in the amount of interest income we can earn on our portfolio, changes in the market value due to changes in interest rates and other market factors as well as the increase or decrease in any realized gains and losses. Our investment portfolio includes only marketable securities and instruments with active secondary or resale markets to help ensure portfolio liquidity. A hypothetical 100 basis point increase or decrease in interest rates along the entire interest rate yield curve would not significantly affect the fair value of our interest sensitive financial instruments, including our borrowings, but may affect our future earnings and cash flows. We generally have the ability to hold our fixed-income investments to maturity and therefore do not expect that our operating results, financial position or cash flows will be materially impacted due to a sudden change in interest rates. However, our future investment income may fall short of expectations due to changes in interest rates, or we may suffer losses in principal if forced to sell securities which have declined in market value due to changes in interest rates or other factors, such as changes in credit risk related to the securities' issuers. To minimize this risk, we schedule our investments to have maturities that coincide with our expected cash flow needs, thus avoiding the need to redeem an investment prior to its maturity date. Accordingly, we do not believe that we have material exposure to interest rate risk arising from our investments. Generally, our investments are not collateralized. We have not realized any significant losses from our investments.

We do not use interest rate derivative instruments to manage exposure to interest rate changes. We ensure the safety and preservation of invested principal funds by limiting default risk, market risk and reinvestment risk. We reduce default risk by investing in investment grade securities.

Foreign Currency Risk

The majority of our transactions occur in U.S. dollars and we do not have significant operating subsidiaries or significant investments in foreign countries. Therefore, we are not subject to significant foreign currency exchange risk in our normal operations.

In connection with the issuance by Royalty Sub of the PhaRMA Notes, we entered into a Currency Hedge Agreement to hedge certain risks associated with changes in the value of the Japanese yen relative to the U.S. dollar. Under the Currency Hedge Agreement, we are required to post collateral based on our potential obligations under the Currency Hedge Agreement as determined by periodic mark to market adjustments. Provided the Currency Hedge Agreement remains in effect, we may be required to pay an annual premium in the amount of $2.0 million from May 2018 through May 2020. Such payment will be required if, in May of the relevant year, the spot rate of exchange for Japanese yen-U.S. dollars (determined in accordance with the Currency Hedge Agreement) is such that the U.S. dollar is worth 100 yen or less. As of December 31, 2017, the maximum amount of hedge collateral we may be required to post is $5.9 million.

ITEM 8. ***FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA***

BIOCRYST PHARMACEUTICALS, INC.

CONSOLIDATED BALANCE SHEETS

(In thousands, except per share amounts)

	December 31,	
	2017	2016
ASSETS		
Cash and cash equivalents	$50,282	$22,104
Restricted cash	3,286	1,546
Investments	64,115	32,546
Receivables from collaborations	6,117	8,768
Inventory	—	500
Prepaid expenses and other current assets	1,381	1,438
Deferred collaboration expense	210	85
Total current assets	125,391	66,987
Investments	41,295	8,926
Property and equipment, net	9,546	9,922
Deferred collaboration expense	—	199
Other assets	2,027	3,813
Total assets	$178,259	$89,847
LIABILITIES AND STOCKHOLDERS' EQUITY		
Accounts payable	$6,337	$4,269
Accrued expenses	12,699	10,836
Interest payable	12,095	8,990
Deferred collaboration revenue	8,484	2,022
Lease financing obligation	75	—
Senior credit facility	6,464	—
Non-recourse notes payable	28,682	28,243
Total current liabilities	74,836	54,360
Deferred collaboration revenue	—	8,184
Deferred rent	155	244
Lease financing obligation	2,751	2,704
Senior credit facility	16,750	22,777
Stockholders' equity:		
Preferred stock, $0.001 par value; shares authorized — 5,000; no shares outstanding	—	—
Common stock, $0.01 par value; shares authorized — 200,000; shares issued and outstanding — 98,411 in 2017 and 73,782 in 2016	984	738
Additional paid-in capital	714,869	566,913
Accumulated other comprehensive loss	(243)	(12)
Accumulated deficit	(631,843)	(566,061)
Total stockholders' equity	83,767	1,578
Total liabilities and stockholders' equity	$178,259	$89,847

See accompanying notes to consolidated financial statements.

BIOCRYST PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

(In thousands, except per share amounts)

	Year Ended December 31,		
	2017	2016	2015
Revenues			
Product sales, net	$1,501	$2,269	$6,291
Royalty revenue	10,543	9,682	2,386
Collaborative and other research and development	13,142	14,402	39,580
Total revenues	25,186	26,353	48,257
Expenses			
Cost of products sold	1,142	2,297	1,368
Research and development	66,962	61,008	72,758
Selling, general and administrative	13,933	11,253	13,047
Royalty	560	402	528
Total operating expenses	82,597	74,960	87,701
Loss from operations	(57,411)	(48,607)	(39,444)
Interest and other income	1,015	793	535
Interest expense	(8,565)	(6,487)	(5,200)
(Loss) gain on foreign currency derivative	(821)	(843)	1,090
Net loss	$(65,782)	$(55,144)	$(43,019)
Basic and diluted net loss per common share	$(0.78)	$(0.75)	$(0.59)
Weighted average shares outstanding	84,451	73,699	72,901
Unrealized (loss) gain on available for sale investments	$(231)	$194	$(76)
Comprehensive loss	$(66,013)	$(54,950)	$(43,095)

See accompanying notes to consolidated financial statements.

BIOCRYST PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands, except per share amounts)

	Year Ended December 31,		
	2017	2016	2015
Operating activities:			
Net loss	$(65,782)	$(55,144)	$(43,019)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation, amortization, and impairment	704	483	180
(Gain) loss on disposal of property and equipment	(12)	17	—
Stock-based compensation expense	12,621	8,487	9,705
Amortization of debt issuance costs	876	558	439
Amortization of premium/discount on investments	157	523	570
Change in fair value of foreign currency derivative	966	(811)	564
Changes in operating assets and liabilities:			
Receivables	2,651	(2,525)	3,247
Inventory	500	1,112	(929)
Prepaid expenses and other assets	877	3,702	637
Deferred collaboration expense	74	71	(102)
Accounts payable and accrued expenses	3,842	(10,524)	13,676
Interest payable	3,105	2,244	717
Deferred revenue	(1,722)	(1,631)	1,199
Net cash used in operating activities:	(41,143)	(53,438)	(13,116)
Investing activities:			
Acquisition of property and equipment	(328)	(5,277)	(5,122)
Proceeds from sale of property and equipment	12	4	—
Change in restricted cash	(1,740)	66	(1,462)
Purchases of investments	(107,787)	(14,106)	(53,830)
Sales and maturities of investments	43,461	42,652	42,410
Net cash (used in) provided by investing activities:	(66,382)	23,339	(18,004)
Financing activities:			
Sale of common stock, net	134,000	—	—
Net proceeds from common stock issued under stock-based compensation plans	1,581	317	5,479
Proceeds from senior credit facility	—	22,658	—
Increase in lease financing obligation	122	329	—
Net cash provided by financing activities:	135,703	23,304	5,479
Increase (decrease) in cash and cash equivalents	28,178	(6,795)	(25,641)
Cash and cash equivalents at beginning of year	22,104	28,899	54,540
Cash and cash equivalents at end of year	$50,282	$22,104	$28,899

See accompanying notes to consolidated financial statements.

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BIOCRYST PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

(In thousands, except per share amounts)

	Common Stock	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance at December 31, 2014	$ 720	$542,943	$ (130)	$ (467,898)	$ 75,635
Net loss	—	—	—	(43,019)	(43,019)
Other comprehensive loss	—	—	(76)	—	(76)
Exercise of stock options, 1,359 shares, net	14	5,110	—	—	5,124
Employee stock purchase plan sales, 41 shares, net	—	355	—	—	355
Stock-based compensation expense	—	9,705	—	—	9,705
Balance at December 31, 2015	734	558,113	(206)	(510,917)	47,724
Net loss	—	—	—	(55,144)	(55,144)
Other comprehensive income	—	—	194	—	194
Exercise of stock options, 351 shares, net	3	(15)	—	—	(12)
Employee stock purchase plan sales, 75 shares, net	1	328	—	—	329
Stock-based compensation expense	—	8,487	—	—	8,487
Balance at December 31, 2016	738	566,913	(12)	(566,061)	1,578
Net loss	—	—	—	(65,782)	(65,782)
Other comprehensive (loss)	—	—	(231)	—	(231)
Exercise of stock options, 609 shares, net	6	1,230	—	—	1,236
Employee stock purchase plan sales, 95 shares, net	1	344	—	—	345
Issuance of common stock, 23,925 shares, net	239	133,761			134,000
Stock-based compensation expense	—	12,621	—	—	12,621
Balance at December 31, 2017	$ 984	$714,869	$ (243)	$ (631,843)	$ 83,767

See accompanying notes to consolidated financial statements.

BIOCRYST PHARMACEUTICALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(In thousands, except per share amounts)

Note 1 — Significant Accounting Policies and Concentrations of Risk

The Company

BioCryst Pharmaceuticals, Inc. (the "Company") is a biotechnology company that designs, optimizes and develops novel small molecule drugs that block key enzymes involved in the pathogenesis of diseases. The Company focuses on oral treatments for rare diseases in which significant unmet medical needs exist and that align with its capabilities and expertise. The Company was incorporated in Delaware in 1986 and its headquarters is located in Durham, North Carolina. The Company integrates the disciplines of biology, crystallography, medicinal chemistry and computer modeling to discover and develop small molecule pharmaceuticals through the process known as structure-guided drug design. BioCryst has incurred losses and negative cash flows from operations since inception.

With the funds available at December 31, 2017, the Company believes these resources will be sufficient to fund its operations at least through the third quarter of 2019. The Company has sustained operating losses for the majority of its corporate history and expects that its 2018 expenses will exceed its 2018 revenues. The Company expects to continue to incur operating losses and negative cash flows until revenues reach a level sufficient to support ongoing operations. Accordingly, its planned operations raise doubt about its ability to continue as a going concern beyond the third quarter of 2019. The Company's liquidity needs will be largely determined by the success of operations in regards to the progression of its product candidates in the future. The Company also may consider other plans to fund operations beyond the third quarter of 2019 including: (1) securing or increasing U.S. Government funding of its programs, including obtaining procurement contracts; (2) out-licensing rights to certain of its products or product candidates, pursuant to which the Company would receive cash milestones; (3) raising additional capital through equity or debt financings or from other sources; (4) obtaining additional product candidate regulatory approvals, which would generate revenue, milestones and cash flow; (5) reducing spending on one or more research and development programs, including by discontinuing development; and/or (6) restructuring operations to change its overhead structure. The Company may issue securities, including common stock, preferred stock, depositary shares, stock purchase contracts, warrants and units, through private placement transactions or registered public offerings in the future. The Company's future liquidity needs, and ability to address those needs, will largely be determined by the success of its product candidates and key development and regulatory events and its decisions in the future.

Basis of Presentation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, JPR Royalty Sub LLC ("Royalty Sub") and MDCP, LLC ("MDCP"). Both subsidiaries were formed to facilitate financing transactions for the Company. Royalty Sub was formed in connection with a $30,000 financing transaction the Company completed on March 9, 2011. See Note 3, Royalty Monetization, for a further description of this transaction. MDCP was formed in connection with a $23,000 Senior Credit Facility that the Company closed on September 23, 2016. See Note 4, Senior Credit Facility, for a further description of this transaction. All intercompany transactions and balances have been eliminated.

The Company's consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"). Such consolidated financial statements reflect all adjustments that are, in management's opinion, necessary to present fairly, in all material respects, the Company's consolidated financial position, results of operations, and cash flows. There were no adjustments other than normal recurring adjustments.

Cash and Cash Equivalents

The Company generally considers cash equivalents to be all cash held in commercial checking accounts, certificates of deposit, money market accounts or investments in debt instruments with maturities of three months or less at the time of purchase. The carrying value of cash and cash equivalents approximates fair value due to the short-term nature of these items.

Restricted Cash

Restricted cash as of December 31, 2017 reflects $1,876 in royalty revenue paid by Shionogi & Co., Ltd. ("Shionogi") designated for interest on the PhaRMA Notes (defined in Note 3) and $1,410 the Company is required to maintain as collateral for a letter of credit associated with the lease execution and build-out of its new Birmingham research facilities.

Investments

The Company invests in high credit quality investments in accordance with its investment policy, which is designed to minimize the possibility of loss. The objective of the Company's investment policy is to ensure the safety and preservation of invested funds, as well as maintaining liquidity sufficient to meet cash flow requirements. The Company places its excess cash with high credit quality financial institutions, commercial companies, and government agencies in order to limit the amount of its credit exposure. In accordance with its policy, the Company is able to invest in marketable debt securities that may consist of U.S. Government and government agency securities, money market and mutual fund investments, municipal and corporate notes and bonds, commercial paper and asset or

mortgage-backed securities, among others. The Company's investment policy requires it to purchase high-quality marketable securities with a maximum individual maturity of three years and requires an average portfolio maturity of no more than 18 months. Some of the securities the Company invests in may have market risk. This means that a change in prevailing interest rates may cause the principal amount of the investment to fluctuate. To minimize this risk, the Company schedules its investments with maturities that coincide with expected cash flow needs, thus avoiding the need to redeem an investment prior to its maturity date. Accordingly, the Company does not believe it has a material exposure to interest rate risk arising from its investments. Generally, the Company's investments are not collateralized. The Company has not realized any significant losses from its investments.

BIOCRYST PHARMACEUTICALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(In thousands, except per share amounts)

The Company classifies all of its investments as available-for-sale. Unrealized gains and losses on investments are recognized in comprehensive loss, unless an unrealized loss is considered to be other than temporary, in which case the unrealized loss is charged to operations. The Company periodically reviews its investments for other than temporary declines in fair value below cost basis and whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The Company believes the individual unrealized losses represent temporary declines primarily resulting from interest rate changes. Realized gains and losses are reflected in interest and other income in the Consolidated Statements of Comprehensive Loss and are determined using the specific identification method with transactions recorded on a settlement date basis. Investments with original maturities at date of purchase beyond three months and which mature at or less than 12 months from the balance sheet date are classified as current. Investments with a maturity beyond 12 months from the balance sheet date are classified as long-term. At December 31, 2017, the Company believes that the cost of its investments is recoverable in all material respects.

The following tables summarize the fair value of the Company's investments by type. The estimated fair values of the Company's fixed income investments are classified as Level 2 in the fair value hierarchy as defined in U.S. GAAP. These valuations are based on observable direct and indirect inputs, primarily quoted prices of similar, but not identical, instruments in active markets or quoted prices for identical or similar instruments in markets that are not active. These fair values are obtained from independent pricing services which utilize Level 2 inputs.

	December 31, 2017				
	Amortized Cost	Accrued Interest	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Obligations of U.S. Government and its agencies	$60,121	$ 177	$ —	$ (122)	$60,176
Corporate debt securities	34,021	203	—	(108)	34,116
Certificates of deposit	11,099	32	1	(14)	11,118
Total investments	$105,241	$ 412	$ 1	$ (244)	$105,410

	December 31, 2016				
	Amortized Cost	Accrued Interest	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Obligations of U.S. Government and its agencies	$20,266	$ 34	$ 2	$ (4)	$20,298
Corporate debt securities	6,179	26	2	(8)	6,199
Certificates of deposit	14,962	17	7	(11)	14,975
Total investments	$41,407	$ 77	$ 11	$ (23)	$41,472

The following table summarizes the scheduled maturity for the Company's investments at December 31, 2017 and 2016.

	2017	2016
Maturing in one year or less	$64,115	$32,546
Maturing after one year through two years	34,257	8,926
Maturing after two years	7,038	—
Total investments	$105,410	$41,472

BIOCRYST PHARMACEUTICALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(In thousands, except per share amounts)

Receivable from Collaborations

Receivables from collaborations are recorded for amounts due to the Company related to reimbursable research and development costs from the U.S. Department of Health and Human Services, royalty receivables from Shionogi, Green Cross Corporation ("Green Cross"), Mundipharma International Holdings Limited ("Mundipharma") and Seqirus UK Limited ("SUL"), and product sales to SUL. These receivables are evaluated to determine if any reserve or allowance should be established at each reporting date. At December 31, 2017 and December 31, 2016, the Company had the following receivables.

	December 31, 2017		
	Billed	Unbilled	Total
U.S. Department of Health and Human Services	$42	$2,020	$2,062
Shionogi & Co. Ltd.	1,600	—	1,600
Green Cross Corporation	1,388	28	1,416
Mundipharma International Holdings Limited	47	—	47
Seqirus UK Limited	825	167	992
Total receivables	$3,902	$2,215	$6,117

	December 31, 2016		
	Billed	Unbilled	Total
U.S. Department of Health and Human Services	$—	$3,495	$3,495
Shionogi & Co. Ltd.	3,451	—	3,451
Green Cross Corporation	686	—	686
Seqirus UK Limited	957	179	1,136
Total receivables	$5,094	$3,674	$8,768

Monthly invoices are submitted to the U.S. Department of Health and Human Services related to reimbursable research and development costs. The Company is also entitled to monthly reimbursement of indirect costs based on rates stipulated in the underlying contract. The Company's calculations of its indirect cost rates are subject to audit by the U.S. Government.

Receivables from Product Sales

Receivables from product sales are recorded for amounts due to the Company related to sales of RAPIVAB. These receivables are evaluated to determine if any reserve or allowance should be established at each reporting date.

Inventory

At December 31, 2017 and December 31, 2016, the Company's inventory consisted primarily of peramivir work in process and is being manufactured for the Company's partners. Inventory is stated at the lower of cost and net realizable value, determined under the first-in, first-out ("FIFO") method, or market. The Company expenses costs related to the production of inventories as research and development expenses in the period incurred until such time it is believed that future economic benefit is expected to be recognized, which generally is reliant upon receipt of regulatory approval. Upon regulatory approval, the Company will capitalize subsequent costs related to the production of inventories.

Property and Equipment

Property and equipment are recorded at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Computer equipment is depreciated over a life of three years. Laboratory equipment, office equipment, and software are depreciated over a life of five years. Furniture and fixtures are depreciated over a life of seven years. Leasehold improvements are amortized over their estimated useful lives or the expected lease term, whichever is less. Property consists of a leased building which did not meet the sale-leaseback criteria and is recorded at its fair value, less depreciation. The building is being depreciated over a period equal to the expected term of the related lease.

In accordance with U.S. GAAP, the Company periodically reviews its property and equipment for impairment when events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the assets, the assets are written down to their estimated fair values. Property and equipment to be disposed of are reported at the lower of carrying amount or fair value less cost to sell.

Patents and Licenses

The Company seeks patent protection on all internally developed processes and products. All patent related costs are expensed to selling, general and administrative expenses when incurred as recoverability of such expenditures is uncertain.

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Accrued Expenses

The Company generally enters into contractual agreements with third-party vendors who provide research and development, manufacturing, and other services in the ordinary course of business. Some of these contracts are subject to milestone-based invoicing and services are completed over an extended period of time. The Company records liabilities under these contractual commitments when it determines an obligation has been incurred, regardless of the timing of the invoice. This process involves reviewing open contracts and purchase orders, communicating with applicable Company personnel to identify services that have been performed on its behalf and estimating the level of service performed and the associated cost incurred for the service when the Company has not yet been invoiced or otherwise notified of actual cost. The majority of service providers invoice the Company monthly in arrears for services performed. The Company makes estimates of accrued expenses as of each balance sheet date in its financial statements based on the facts and circumstances. The Company periodically confirms the accuracy of its estimates with the service providers and makes adjustments if necessary. Examples of estimated accrued expenses include:

- fees paid to Clinical Research Organizations (“CROs”) in connection with preclinical and toxicology studies and clinical trials;
- fees paid to investigative sites in connection with clinical trials;
- fees paid to contract manufacturers in connection with the production of the Company’s raw materials, drug substance and drug products; and
- professional fees.

The Company bases its expenses related to clinical trials on its estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and CROs that conduct and manage clinical trials on the Company’s behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of clinical trial milestones. In accruing service fees, the Company estimates the time period over which services will be performed and the level of effort expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, the Company will adjust the accrual accordingly. As of December 31, 2017 and December 31, 2016, the carrying value of accrued expenses approximates their fair value due to their short-term settlement.

Accrued expenses were comprised of the following:

	December 31,	
	2017	2016
Compensation and benefits	$2,905	$425
Development costs	6,683	7,427
Inventory	—	705
Professional fees	729	242
Duties and taxes	148	56
Other	2,234	1,981
Total accrued expenses	$12,699	$10,836

Income Taxes

The liability method is used in the Company's accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse.

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118"), which provides guidance on accounting for the tax effects of the Tax Cuts and Jobs Act ("TCJA"). SAB 118 provides a measurement period that should not extend beyond one year from the TCJA enactment date for companies to complete the accounting under ASC 740, Income Taxes. As of December 31, 2017, the Company has not completed its accounting related to the enactment of the Tax Act. However, the Company has made reasonable estimates of the effects on its income tax provision with respect to certain items, primarily the revaluation of its existing U.S. deferred tax balances as described in Note 8.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss is comprised of unrealized gains and losses on available-for-sale investments and is disclosed as a separate component of stockholders' equity. Amounts reclassified from accumulated other comprehensive loss are recorded as interest and other income on the Consolidated Statements of Comprehensive Loss. During 2017 and 2016, a realized loss of $1 and a realized gain of $11, respectively, were reclassified out of accumulated other comprehensive loss.

Revenue Recognition

The Company recognizes revenues from collaborative and other research and development arrangements, royalties and product sales when realized or realizable and earned. Revenue is realized or realizable and earned when all of the following criteria are met: (i) persuasive evidence of an arrangement exists; (ii) delivery has occurred or services have

been rendered; (iii) the seller's price to the buyer is fixed or determinable; and (iv) collectability is reasonably assured.

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Collaborative and Other Research and Development Arrangements and Royalties

Revenue from license fees, royalty payments, event payments, and research and development fees are recognized as revenue when the earnings process is complete and the Company has no further continuing performance obligations or the Company has completed the performance obligations under the terms of the agreement. Fees received under licensing agreements that are related to future performance are deferred and recognized over an estimated period determined by management based on the terms of the agreement and the products licensed. Revisions to revenue or profit estimates as a result of changes in the estimated revenue period are recognized prospectively.

Under certain of the Company's license agreements, the Company receives royalty payments based upon its licensees' net sales of covered products. The Company recognizes royalty revenues when it can reliably estimate such amounts and collectability is reasonably assured.

For arrangements that involve the delivery of more than one element, each product, service and/or right to use assets is evaluated to determine whether it qualifies as a separate unit of accounting. This determination is based on whether the deliverable has "stand-alone value" to the customer. The consideration that is fixed or determinable is then allocated to each separate unit of accounting based on the relative selling price of each deliverable. The estimated selling price of each deliverable is determined using the following hierarchy of values: (i) vendor-specific objective evidence of fair value, (ii) third-party evidence of selling price ("TPE") and (iii) best estimate of selling price ("BESP"). The BESP reflects the Company's best estimate of what the selling price would be if the deliverable was regularly sold by the Company on a stand-alone basis. In most cases the Company expects to use TPE or BESP for allocating consideration to each deliverable. The consideration allocated to each unit of accounting is recognized as the related goods or services are delivered, limited to the consideration that is not contingent upon future deliverables. Analyzing the arrangement to identify deliverables requires the use of judgment, and each deliverable may be an obligation to deliver services, a right or license to use an asset, or another performance obligation.

In June 2015, the Company entered into a License Agreement (the "SUL Agreement") granting SUL and its affiliates worldwide rights, excluding Israel, Japan, Korea and Taiwan, to develop, manufacture and commercialize RAPIVAB. The SUL Agreement provides for various types of payments, including a non-refundable upfront fee, milestone payments, and future royalties. Analysis of the SUL Agreement identified three deliverables: (i) license rights, (ii) inventory and (iii) regulatory support to obtain Canadian and European Union ("EU") marketing approvals. The Company received an upfront payment of $33,740 from SUL, of which $7,000 was determined to be contingent upon EU marketing approval and will be deferred until that time. Approximately $21,777 of the upfront payment was allocated to the license rights and recognized as revenue in 2015. Approximately $3,740 of the upfront payment was allocated to the pending sale of inventory and was recognized in 2015, when the inventory transfer was completed. Approximately $1,223 of the revenue from the SUL Agreement was recognized over the period of involvement in

regulatory support activities.

Milestone payments are recognized as licensing revenue upon the achievement of specified milestones if (i) the milestone is substantive in nature and the achievement of the milestone was not reasonably assured at the inception of the agreement; and (ii) the fees are non-refundable. Any milestone payments received prior to satisfying these revenue recognition criteria are recorded as deferred revenue.

During 2017, the Company received a $2,000 milestone payment related to the approval of RAPIVAB by Health Canada and a $5,000 milestone payment associated with the FDA approval of a supplemental new drug application (“sNDA”) for RAPIVAB extending its availability for the treatment of acute uncomplicated influenza to pediatric patients two years and older. The Company evaluated each event based payment under the provisions of ASU 2010-17, Milestone Method of Revenue Recognition, and determined that each event based payment met the criteria to be considered substantive and represents a milestone under the milestone method of accounting. Under the terms of the SUL Agreement, the Company may receive an additional $5,000 payment related to the successful marketing approval by the EMA for an adult indication in the EU. No event-based payments were achieved during 2016.

Reimbursements received for direct out-of-pocket expenses related to research and development costs are recorded as revenue in the Consolidated Statements of Comprehensive Loss rather than as a reduction in expenses. Under the Company’s contracts with the Biomedical Advanced Research and Development Authority within the United States Department of Health and Human Services (”BARDA/HHS”) and the National Institute of Allergy and Infectious Diseases (“NIAID/HHS”), revenue is recognized as reimbursable direct and indirect costs are incurred.

Product Sales

The Company recognizes revenue for sales of RAPIVAB when title and substantially all the risks and rewards of ownership have transferred to the customer, which generally occurs on the date of shipment from the Company’s specialty distributors, utilizing the Sell-Through revenue recognition methodology. Product sales are recognized when there is persuasive evidence that an arrangement exists, title has passed, the price is fixed and determinable, and collectability is reasonably assured. Product sales are recognized net of estimated allowances, discounts, sales returns, chargebacks and rebates. In the United States, and prior to the SUL Agreement, the Company sold RAPIVAB to specialty distributors, who in turn, sell to physician offices, hospitals and federal, state and commercial health care organizations. With the completion of the SUL worldwide license of RAPIVAB, SUL will be responsible for sales of RAPIVAB, other than U.S. Government stockpiling sales. With the completion of the SUL collaboration, all peramivir sales (i.e., RAPIVAB, RAPIACTA, and PERAMIFLU) will be made by the Company’s partners, except for U.S. Government stockpiling sales, and the Company will be reliant on these partners to generate sales.

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Sales deductions consist of statutory rebates to state Medicaid, Medicare and other government agencies and sales discounts (including trade discounts and distribution service fees). These deductions are recorded as reductions from revenue from RAPIVAB in the same period as the related sales with estimates of future utilization derived from historical experience adjusted to reflect known changes in the factors that impact such reserves.

The Company utilizes data from external sources to help it estimate gross-to-net sales adjustments as they relate to the recognition of revenue for RAPIVAB sold. Externally sourced data includes, but is not limited to, information obtained from specialty distributors with respect to their inventory levels and their sell-through to customers, as well as information from third-party suppliers of market research data to the pharmaceutical industry.

The Company accounts for these sales deductions in accordance with authoritative guidance on revenue recognition when consideration is given by a vendor to a customer.

The Company has categorized and described more fully the following significant sales deductions, all of which involve estimates and judgments, which the Company considers to be critical accounting estimates, and require it to use information from external sources.

Rebates and Chargebacks

Statutory rebates to state Medicaid agencies and Medicare are based on statutory discounts to RAPIVAB’s selling price. As it can take up to nine months or more for information to be received on actual usage of RAPIVAB in Medicaid and other governmental programs, the Company maintains reserves for amounts payable under these programs relating to RAPIVAB sales.

Chargebacks claimed by specialty distributors are based on the differentials between product acquisition prices paid by the specialty distributors and lower government contract pricing paid by eligible customers covered under federally qualified programs.

The amount of the reserve for rebates and chargebacks is based on multiple qualitative and quantitative factors, including the historical and projected utilization levels, historical payment experience, changes in statutory laws and

interpretations as well as contractual terms, product pricing (both normal selling prices and statutory or negotiated prices), changes in prescription demand patterns and utilization of the Company's product through public benefit plans, and the levels of RAPIVAB inventory in the distribution channel. The Company acquires prescription utilization data from third-party suppliers of market research data to the pharmaceutical industry. The Company updates its estimates and assumptions each period and records any necessary adjustments to its reserves. Settlements of rebates and chargebacks typically occur within nine months from point of sale. To the extent actual rebates and chargebacks differ from the Company's estimates, additional reserves may be required or reserves may need to be reversed, either of which would impact current period product revenue.

Discounts and Sales Incentives

Discounts and other sales incentives primarily consist of Inventory Management Agreement ("IMA") fees. Per contractual agreements with the Company's specialty distributors, the Company provides an IMA fee based on a percentage of their purchases of RAPIVAB. The IMA fee rates are set forth in individual contracts. The Company tracks sales to these distributors each period and accrues a liability relating to the unpaid portion of these fees by applying the contractual rates to such product sales. With the completion of the SUL collaboration, all peramivir sales (i.e., RAPIVAB, RAPIACTA, and PERAMIFLU) will be made by the Company's partners, except for U.S. Government stockpiling sales, and the Company will be reliant on these partners to generate sales and to provide for discounts and sales incentives.

Product Returns

The Company does not record a product return allowance as it does not offer the ability to return goods once a bonafide shipment has been accepted by a specialty distributor.

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The Company recorded the following revenues for the years ended December 31:

	2017	2016	2015
Product sales, net	$1,501	$2,269	$6,291
Royalty revenue	10,543	9,682	2,386
Collaborative and other research and development revenues:			
U.S. Department of Health and Human Services	4,608	12,449	16,337
Green Cross Corporation	—	—	132
Shionogi & Co. Ltd.	1,184	1,184	1,184
Seqirus UK Limited	7,350	769	21,927
Total collaborative and other research and development revenues	13,142	14,402	39,580
Total revenues	$25,186	$26,353	$48,257

Advertising

The Company engages in very limited distribution and direct-response advertising when promoting RAPIVAB. Advertising and promotional costs are expensed as the costs are incurred. The Company did not incur advertising and product promotion expenses in 2017 and 2016. Advertising and product promotion expenses were $103 for the year ended December 31, 2015.

Research and Development Expenses

The Company's research and development costs are charged to expense when incurred. Research and development expenses include all direct and indirect development costs related to the development of the Company's portfolio of product candidates. Advance payments for goods or services that will be used or rendered for future research and development activities are deferred and capitalized. Such amounts are recognized as expense when the related goods are delivered or the related services are performed. Research and development expenses include, among other items, personnel costs, including salaries and benefits, manufacturing costs, clinical, regulatory, and toxicology services performed by CROs, materials and supplies, and overhead allocations consisting of various administrative and facilities related costs. Most of the Company's manufacturing and clinical and preclinical studies are performed by third-party CROs. Costs for studies performed by CROs are accrued by the Company over the service periods specified in the contracts and estimates are adjusted, if required, based upon the Company's on-going review of the level of services actually performed.

Additionally, the Company has license agreements with third parties, such as Albert Einstein College of Medicine of Yeshiva University ("AECOM"), Industrial Research, Ltd. ("IRL"), and the University of Alabama at Birmingham ("UAB"), which require fees related to sublicense agreements or maintenance fees. The Company expenses sublicense payments as incurred unless they are related to revenues that have been deferred, in which case the expenses are deferred and recognized over the related revenue recognition period. The Company expenses maintenance payments as incurred.

Deferred collaboration expenses represent sub-license payments, paid to the Company's academic partners upon receipt of consideration from various commercial partners, and other consideration paid to the Company's academic partners for modification to existing license agreements. These deferred expenses would not have been incurred without receipt of such payments or modifications from the Company's commercial partners and are being expensed in proportion to the related revenue being recognized. The Company believes that this accounting treatment appropriately matches expenses with the associated revenue.

Stock-Based Compensation

All share-based payments, including grants of stock option awards and restricted stock unit awards, are recognized in the Company's Consolidated Statements of Comprehensive Loss based on their fair values. The fair value of stock option awards is estimated using the Black-Scholes option pricing model. The fair value of restricted stock unit awards is based on the grant date closing price of the common stock. Stock-based compensation cost is recognized as expense on a straight-line basis over the requisite service period of the award. In addition, we have outstanding performance-based stock options for which no compensation expense is recognized until "performance" is deemed to have occurred.

Interest Expense and Deferred Financing Costs

Interest expense for the years ended December 31, 2017, 2016 and 2015 was $8,565, $6,487 and $5,200, respectively, and primarily relates to the issuance of the PhaRMA Notes (defined in Note 3) and the Senior Credit Facility (defined in Note 4). Costs directly associated with the issuance of the PhaRMA Notes and the Senior Credit Facility have been capitalized and are netted against the non-recourse notes payable and Senior Credit Facility on the Consolidated Balance Sheets. These costs are being amortized to interest expense over the terms of the PhaRMA Notes and the Senior Credit Facility using the effective interest rate method. Amortization of deferred financing costs and original issue discount included in interest expense was $876, $558 and $439 for each of the years ended December 31, 2017, 2016 and 2015, respectively.

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Lease Financing Obligation

Based on the terms of the lease agreement for the new research facility in Birmingham, Alabama, the Company had construction period risks during the construction period and the Company was deemed the owner of the building (for accounting purposes only) during the construction period, which ended in 2016. Accordingly, the Company recorded an asset of $1,589 at December 31, 2015, representing the Company's leased portion of the building and recorded a corresponding liability. Upon completion of leasehold improvement construction, the Company did not meet the sale-leaseback criteria for de-recognition of the building asset and liability. Therefore, the lease is accounted for as a financing obligation. The asset will be depreciated over the expected duration of the lease of 20.5 years, and rental payments will be treated as principal and interest payments on the lease financing obligation liability. The underlying accounting for this transaction has no impact on cash flows associated with the underlying lease or construction in process. Interest expense for the years ended December 31, 2017 and 2016 includes $299 and $408, respectively, related to the lease financing obligation.

At each of December 31, 2017 and 2016, the lease financing obligation balance was $2,704 and was recorded as a long-term liability on the consolidated balance sheets. At December 31, 2017 the remaining future minimum payments under the lease financing obligation are $4,334.

Currency Hedge Agreement

In connection with the issuance by Royalty Sub of the PhaRMA Notes, the Company entered into a Currency Hedge Agreement to hedge certain risks associated with changes in the value of the Japanese yen relative to the U.S. dollar. The Currency Hedge Agreement does not qualify for hedge accounting treatment; therefore mark to market adjustments are recognized in the Company's Consolidated Statements of Comprehensive Loss. Cumulative mark to market adjustments for the years ended December 31, 2017, 2016 and 2015 resulted in losses of $1,787, $1,654 and $564, respectively. Mark to market adjustments are determined by a third-party pricing model which uses quoted prices in markets that are not actively traded and for which significant inputs are observable directly or indirectly, representing Level 2 in the fair value hierarchy as defined by U.S. GAAP. In addition, realized currency exchange gains of $966, $811 and $1,654 were recognized in 2017, 2016 and 2015, respectively, related to the exercise of a U.S. dollar/Japanese yen currency option under the Company's foreign currency hedge. The Company is also required to post collateral in connection with the mark to market adjustments based on defined thresholds. As of December 31, 2017 and December 31, 2016, no hedge collateral was posted under the Currency Hedge Agreement.

Net Loss Per Share

Net loss per share is based upon the weighted average number of common shares outstanding during the period. Diluted loss per share is equivalent to basic net loss per share for all periods presented herein because common equivalent shares from unexercised stock options, outstanding warrants, and common shares expected to be issued under the Company's employee stock purchase plan were anti-dilutive. The calculation of diluted earnings per share for the years ended December 31, 2017, 2016, and 2015 does not include 2,067, 1,226 and 3,524 respectively, of potential common shares as their impact would be anti-dilutive.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires the Company to make estimates and assumptions that affect the amounts reported in the financial statements. Actual results could differ from those estimates.

Significant Customers and Other Risks

Significant Customers

Prior to the SUL Agreement, the Company relied primarily on three specialty distributors to purchase and supply the majority of RAPIVAB. These three pharmaceutical specialty distributors accounted for greater than 90% of all RAPIVAB product sales and accounted for predominantly all of the Company's outstanding receivables from product sales. The loss of one or more of these specialty distributors as a customer could have negatively impacted the commercialization of RAPIVAB. However, the Company will utilize these specialty distributors on a limited basis subsequent to the SUL collaboration as SUL, and other peramivir collaboration partners, will be responsible for commercial sales on a worldwide basis. In addition, in connection with the SUL collaboration, all peramivir sales (i.e., RAPIVAB, RAPIACTA, and PERAMIFLU) will be made by the Company's partners and the Company will be reliant on these partners to generate sales and remit cash to satisfy receivables.

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Other than royalty revenues, the Company's primary source of revenue that has an underlying cash flow stream is the reimbursement of galidesivir (formerly BCX4430) development expenses earned under cost-plus-fixed-fee contracts with BARDA/HHS and NIAID/HHS. The Company relies on BARDA/HHS and NIAID/HHS to reimburse predominantly all of the development costs for its galidesivir program. Accordingly, reimbursement of these expenses represents a significant portion of the Company's collaborative and other research and development revenues. The completion or termination of the NIAID/HHS and BARDA/HHS galidesivir contracts could negatively impact the Company's future Consolidated Statements of Comprehensive Loss and Cash Flows. The Company recognizes royalty revenue from the net sales of RAPIACTA by Shionogi; however, the underlying cash flow from these royalty payments, except for Japanese government stockpiling sales, goes directly to pay the interest, and then the principal, on the Company's non-recourse notes payable. Payment of the interest and the ultimate repayment of principal of these notes will be entirely funded by future royalty payments derived from net sales of RAPIACTA. Further, the Company's drug development activities are performed by a limited group of third party vendors. If any of these vendors were unable to perform their services, this could significantly impact the Company's ability to complete its drug development activities.

Risks from Third Party Manufacturing and Distribution Concentration

The Company relies on single source manufacturers for active pharmaceutical ingredient and finished drug product manufacturing of product candidates in development. Delays in the manufacture or distribution of any product could adversely impact the commercial revenue and future procurement stockpiling of the Company's product candidates in development.

Credit Risk

Cash equivalents and investments are financial instruments which potentially subject the Company to concentration of risk to the extent recorded on the Consolidated Balance Sheets. The Company deposits excess cash with major financial institutions in the United States. Balances may exceed the amount of insurance provided on such deposits. The Company believes it has established guidelines for investment of its excess cash relative to diversification and maturities that maintain safety and liquidity. To minimize the exposure due to adverse shifts in interest rates, the Company maintains a portfolio of investments with an average maturity of approximately 18 months or less. Other than product sale and collaborative partner receivables discussed above, the majority of the Company's receivables from collaborations are due from the U.S. Government, for which there is no assumed credit risk.

Note 2 — Property and Equipment

Property and equipment consisted of the following at December 31:

	2017	2016
Furniture and fixtures	$566	$540
Office equipment	146	141
Software	1,125	1,117
Laboratory equipment	2,984	3,252
Leased equipment	152	—
Leasehold improvements	8,405	8,294
Building	1,495	1,495
	14,873	14,839
Less accumulated depreciation and amortization	(5,327)	(4,917)
Property and equipment, net	$9,546	$9,922

Depreciation and amortization expense for the years ended December 31, 2017, 2016 and 2015 was $704, $483 and $180, respectively.

Note 3— Royalty Monetization

Overview

On March 9, 2011, the Company completed a $30,000 financing transaction to monetize certain future royalty and milestone payments under the Shionogi Agreement, pursuant to which Shionogi licensed from the Company the rights to market RAPIACTA in Japan and Taiwan. The Company received net proceeds of $22,691 from the transaction after transaction costs of $4,309 and the establishment of a $3,000 interest reserve account by Royalty Sub, available to help cover interest shortfalls in the future. All of the interest reserve account has been fully utilized with the September 2012 interest payment.

As part of the transaction, the Company entered into a purchase and sale agreement dated as of March 9, 2011 with Royalty Sub, whereby the Company transferred to Royalty Sub, among other things, (i) its rights to receive certain royalty and milestone payments from Shionogi arising under the Shionogi Agreement, and (ii) the right to receive payments under a Japanese yen/US dollar foreign currency hedge arrangement (as further described below, the “Currency Hedge Agreement”) put into place by the Company in connection with the transaction. Royalty payments will be paid by Shionogi in Japanese yen and milestone payments will paid in U.S. dollars. The Company’s collaboration with Shionogi was not impacted as a result of this transaction.

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Non-Recourse Notes Payable

On March 9, 2011, Royalty Sub completed a private placement to institutional investors of $30,000 in aggregate principal amount of its PhaRMA Senior Secured 14.0% Notes due 2020 (the "PhaRMA Notes"). The PhaRMA Notes were issued by Royalty Sub under an Indenture, dated as of March 9, 2011 (the "Indenture"), by and between Royalty Sub and U.S. Bank National Association, as Trustee. Principal and interest on the PhaRMA Notes issued are payable from, and are secured by, the rights to royalty and milestone payments under the Shionogi Agreement transferred by the Company to Royalty Sub and payments, if any, made to Royalty Sub under the Currency Hedge Agreement. The PhaRMA Notes bear interest at 14% per annum, payable annually in arrears on September 1st of each year. The Company remains entitled to receive any royalties and milestone payments related to sales of peramivir by Shionogi following repayment of the PhaRMA Notes.

Royalty Sub's obligations to pay principal and interest on the PhaRMA Notes are obligations solely of Royalty Sub and are without recourse to any other person, including the Company, except to the extent of the Company's pledge of its equity interests in Royalty Sub in support of the PhaRMA Notes. The Company may, but is not obligated to, make capital contributions to a capital account that may be used to redeem, or on up to one occasion pay any interest shortfall on, the PhaRMA Notes.

In September 2014, Royalty Sub was unable to pay the accrued interest obligation due September 3, 2013. Under the terms of the Indenture, Royalty Sub's inability to pay the full amount of interest payable in September 2013 by the next succeeding Payment Date for the PhaRMA Notes, which was September 1, 2014, constituted an event of default. Accordingly, the PhaRMA Notes and related accrued interest have been classified as current liabilities on the December 31, 2014 balance sheet, and thereafter. As a result of the event of default under the PhaRMA Notes, the holders of the PhaRMA Notes may pursue acceleration of the PhaRMA Notes, may foreclose on the collateral securing the PhaRMA Notes and the equity interest in Royalty Sub and exercise other remedies available to them under the Indenture in respect of the PhaRMA Notes. In such event, the Company may not realize the benefit of future royalty payments that might otherwise accrue to it following repayment of the PhaRMA Notes and it might otherwise be adversely affected. Due to the non-recourse nature of the PhaRMA Notes, in the event of any potential acceleration or foreclosure, the primary impact to the Company would be the loss of future royalty payments from Shionogi and legal costs associated with retiring the PhaRMA Notes. In addition, the Company may incur costs associated with liquidating the related Currency Hedge Agreement, which would no longer be required in the event of foreclosure, or if the PhaRMA Notes cease to be outstanding. As the PhaRMA Notes are the obligation of Royalty Sub and non-recourse to the Company, the event of default of the PhaRMA Notes is not expected to have a significant impact on the Company's future results of operations or cash flows. As of December 31, 2017, the PhaRMA Notes remain in default.

The Indenture does not contain any financial covenants. The Indenture includes customary representations and warranties of Royalty Sub, affirmative and negative covenants of Royalty Sub, Events of Default and related remedies, and provisions regarding the duties of the Trustee, indemnification of the Trustee, and other matters typical for indentures used in structured financings of this type.

As of December 31, 2017, the aggregate fair value of the PhaRMA Notes was estimated to be approximately 50% of its carrying value of $30,000. The estimated fair value of the PhaRMA Notes is classified as Level 2 in the fair value hierarchy as defined in U.S. GAAP.

The PhaRMA Notes are redeemable at the option of Royalty Sub at any time at a redemption price equal to the outstanding principal balance of the PhaRMA Notes being redeemed plus accrued and unpaid interest through the redemption date on the PhaRMA Notes being redeemed.

Foreign Currency Hedge

In connection with the issuance by Royalty Sub of the PhaRMA Notes, the Company entered into a Currency Hedge Agreement to hedge certain risks associated with changes in the value of the Japanese yen relative to the U.S. dollar. Under the Currency Hedge Agreement, the Company has the right to purchase dollars and sell yen at a rate of 100 yen per dollar for which the Company may be required to pay a premium in each year from 2018 through 2020, provided the Currency Hedge Agreement remains in effect. A payment of $1,950 will be required if, on May 18 of the relevant year, the U.S. dollar is worth 100 yen or less as determined in accordance with the Currency Hedge Agreement.

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The Currency Hedge Agreement does not qualify for hedge accounting treatment; therefore mark to market adjustments are recognized in the Company's Consolidated Statement of Comprehensive Loss. Cumulative mark to market adjustments in 2017, 2016 and 2015 resulted in losses of $1,787, $1,654 and $564, respectively. In addition, realized currency exchange gains of $966, $811 and $1,654 were recognized in 2017, 2016 and 2015, respectively, related to the exercise of a U.S. dollar/Japanese yen currency option under the Company's foreign currency hedge. The Company is also required to post collateral in connection with the mark to market adjustments based on defined thresholds. As of December 31, 2017 and 2016, no collateral was posted under the Currency Hedge Agreement. The Company will not be required at any time to post collateral exceeding the maximum premium payments remaining payable under the Currency Hedge Agreement. As of December 31, 2017, the maximum amount of hedge collateral the Company may be required to post is $5,850.

Note 4 — Senior Credit Facility

On September 23, 2016, the Company closed a $23,000 Senior Credit Facility with an affiliate of MidCap Financial Services, LLC ("MidCap"), as administrative agent (the "Senior Credit Facility"). The Senior Credit Facility was fully funded at closing and bears a variable interest rate of LIBOR (which shall not be less than 0.5%) plus 8%. The Senior Credit Facility includes an interest-only payment period through fiscal 2017 and scheduled monthly principal and interest payments for the subsequent 40 months. The Company has the option to repay the Senior Credit Facility at any time prior to the scheduled principal repayment date subject to prepayment fees. Final payment of the Senior Credit Facility is subject to a final payment fee equal to 5% of the principal funded under the Senior Credit Facility.

As of December 31, 2017, the Company had borrowings of $23,000 under the Senior Credit Facility bearing an interest rate of 9.4%. The carrying amount of the debt approximates its fair value based on prevailing interest rates as of the balance sheet date. Scheduled principal repayments of the Senior Credit Facility are as follows:

	Principal Payments
2018	$6,900
2019	6,900
2020	6,900
2021	2,300
Total	$23,000

The debt agreement contains two provisions that if deemed probable would create the recognition of an embedded feature; however, at this time we do not believe either provision is probable.

Note 5 — Lease Obligations and Other Contingencies

The Company has the following minimum payments under operating lease obligations that existed at December 31, 2017:

2018	$1,169
2019	1,154
2020	862
2021	479
2022	490
Thereafter	1,999
Total minimum payments	$6,153

The obligations in the preceding table are primarily related to the Company's leases for buildings in Birmingham, Alabama and Durham, North Carolina. The lease for the Company's headquarters in Durham, North Carolina expires June 30, 2020. The lease for the Company's research facility in Birmingham, Alabama expires October 31, 2026. Rent expense for operating leases was $617, $721 and $664 in 2017, 2016, and 2015, respectively.

Lease Financing Obligation

Based on the terms of the lease agreement for the new research facility in Birmingham, Alabama, the Company had construction period risks during the construction period and the Company was deemed the owner of the building (for accounting purposes only) during the construction period, which ended in 2016. Accordingly, the Company recorded an asset of $1,589 at December 31, 2015, representing the Company's leased portion of the building and recorded a corresponding liability. Upon completion of leasehold improvement construction, the Company did not meet the sale-leaseback criteria for de-recognition of the building asset and liability. Therefore, the lease is accounted for as a financing obligation. The asset will be depreciated over the expected duration of the lease, and rental payments will be treated as principal and interest payments on the lease financing obligation liability. The underlying accounting for this transaction has no impact on cash flows associated with the underlying lease and or construction in process.

At each of December 31, 2017 and 2016, the lease financing obligation balance was $2,704 and was recorded as a long-term liability on the consolidated balance sheets. The remaining future minimum payments under the lease financing obligation are $4,334.

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Note 6 — Stockholders' Equity

Sales of Common Stock

In March 2017, the Company completed a public offering of 6,061 shares of its common stock at a price of $8.50 per share, which included the underwriters' overallotment option to purchase additional shares. Net proceeds were approximately $47,750 after deducting underwriting discounts and offering expenses.

In September 2017, the Company completed a public offering of 17,864 shares of its common stock at a price of $5.15 per share, which included the underwriters' overallotment option to purchase additional shares. Net proceeds were approximately $86,250 after deducting underwriting discounts and offering expenses.

On November 8, 2017, the Company filed a $200,000 shelf registration statement on Form S-3 with the SEC. This shelf registration statement became effective on December 12, 2017 and allows the Company to sell securities, including common stock, preferred stock, depository shares, stock purchase contracts, warrants and units, from time to time at prices and on terms to be determined at the time of sale.

Note 7 — Stock-Based Compensation

Stock Incentive Plan

As of December 31, 2017, the Company had two stock-based employee compensation plans, the Stock Incentive Plan ("Incentive Plan") and the Employee Stock Purchase Plan ("ESPP"). The Incentive Plan was amended and restated in April 2017 and approved by the Company's stockholders in May 2017. The ESPP was amended and restated in March 2014 and approved by the Company's stockholders in May 2014. Stock-based compensation expense of $12,621 ($12,421 of expense related to the Incentive Plan, $200 of expense related to the ESPP) was recognized during 2017, while $8,487 ($8,340 of expense related to the Incentive Plan, $147 of expense related to the ESPP) was recognized during 2016, and $9,705 ($9,485 of expense related to the Incentive Plan, $220 of expense related to the ESPP) was recognized during 2015.

The Company accounts for stock-based compensation in accordance with FASB authoritative guidance regarding share-based payments. Total stock-based compensation was allocated as follows:

	Year Ended December 31,		
	2017	2016	2015
Research and development	$9,602	$6,088	$7,580
General and administrative	3,019	2,399	2,125
Total stock-based compensation expense	$12,621	$8,487	$9,705

The Company grants stock option awards and restricted stock unit awards to its employees, directors, and consultants under the Incentive Plan. Under the Incentive Plan, stock option awards are granted with an exercise price equal to the market price of the Company's stock at the date of grant. Commencing March 1, 2011, stock option awards and restricted stock units granted to employees generally vest 25% each year until fully vested after four years. In January 2013, the Company made retention grants of stock option awards and restricted stock units. These awards vest 50% each year until fully vested after two years. In August 2013 and December 2014, the Company issued 1,032 and 1,250 performance-based stock options, respectively. These awards vest upon successful completion of specific development milestones. As of December 31, 2017, 75% of the August 2013 grants have vested based upon achievement of three milestones: (1) successful completion of the OPuS-1 clinical trial, for which vesting occurred in the second quarter of 2014, (2) FDA approval of RAPIVAB, for which vesting occurred in the fourth quarter of 2014, and (3) initiation of a Phase 1 clinical trial to evaluate the safety, pharmacokinetics and pharmacodynamics of orally-administered BCX7353 in healthy volunteers, for which vesting occurred in the second quarter of 2015. As of December 31, 2017, 30% of the December 2014 grants have vested based upon achievement of successful completion of an HAE patient trial with a 2nd generation compound, for which vesting occurred in August 2017. Thus, as of December 31, 2017, 25% of the August 2013 performance-based grants and 70% of the December 2014 performance-based grants remain unvested and no compensation expense has been recognized for these portions of the previously issued performance-based grants. Stock option awards granted to non-employee directors of the Company generally vest monthly over one year. All stock option awards have contractual terms of 5 to 10 years. The vesting exercise provisions of all awards granted under the Incentive Plan are subject to acceleration in the event of certain stockholder-approved transactions, or upon the occurrence of a change in control as defined in the Incentive Plan.

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Related activity under the Incentive Plan is as follows:

	Awards Available	Options Outstanding	Weighted Average Exercise Price
Balance at December 31, 2014	2,362	9,605	$ 6.21
Restricted stock awards granted	(163)	—	—
Restricted stock awards cancelled	1	—	—
Stock option awards granted	(2,217)	2,217	11.52
Stock option awards exercised	—	(1,118)	4.36
Stock option awards cancelled	33	(33)	9.87
Balance at December 31, 2015	16	10,671	7.50
Plan amendment	3,800	—	—
Restricted stock awards granted	(34)	—	—
Restricted stock awards cancelled	22	—	—
Stock option awards granted	(2,248)	2,248	3.20
Stock option awards exercised	—	(107)	2.63
Stock option awards cancelled	717	(717)	10.78
Balance at December 31, 2016	2,273	12,095	6.55
Plan amendment	1,000	—	—
Restricted stock awards granted	(22)	—	—
Restricted stock awards cancelled	12	—	—
Stock option awards granted	(3,915)	3,915	5.33
Stock option awards exercised	—	(438)	3.50
Stock option awards cancelled	1,120	(1,120)	9.72
Balance at December 31, 2017	468	14,452	$ 6.06

As of December 31, 2017, there were 210 restricted stock unit awards outstanding.

For stock option awards granted under the Incentive Plan during 2017, 2016 and 2015, the fair value was estimated on the date of grant using a Black-Scholes option pricing model and the assumptions noted in the table below. The weighted average grant date fair value of these awards granted during 2017, 2016 and 2015 was $3.63, $2.17 and $7.72, respectively. The fair value of the stock option awards is amortized to expense over the vesting periods using a straight-line expense attribution method. The following explanations describe the assumptions used by the Company to value the stock option awards granted during 2017, 2016, and 2015. The expected life is based on the average of the assumption that all outstanding stock option awards will be exercised at full vesting and the assumption that all outstanding stock option awards will be exercised at the midpoint of the current date (if already vested) or at full

vesting (if not yet vested) and the full contractual term. The expected volatility represents the volatility over the most recent period corresponding with the expected life. The Company has assumed no expected dividend yield, as dividends have never been paid to stockholders and will not be for the foreseeable future. The weighted average risk-free interest rate is the implied yield currently available on zero-coupon government issues with a remaining term equal to the expected term.

Weighted Average Assumptions for Stock Option Awards Granted under the Incentive Plan

	2017	2016	2015
Expected Life	5.5	5.5	5.5
Expected Volatility	82 %	82 %	81 %
Expected Dividend Yield	0.0%	0.0%	0.0%
Risk-Free Interest Rate	2.0%	1.4%	1.6%

The total intrinsic value of stock option awards exercised under the Incentive Plan was $1,964 during 2017, $339 during 2016 and $10,117 during 2015. The intrinsic value represents the total proceeds (fair market value at the date of exercise, less the exercise price, times the number of stock option awards exercised) received by all individuals who exercised stock option awards during the period.

The following table summarizes, at December 31, 2017, by price range: (1) for stock option awards outstanding under the Incentive Plan, the number of stock option awards outstanding, their weighted average remaining life and their weighted average exercise price; and (2) for stock option awards exercisable under the Plan, the number of stock option awards exercisable and their weighted average exercise price:

	Outstanding			Exercisable	
Range	Number	Weighted Average Remaining Life	Weighted Average Exercise Price	Number	Weighted Average Exercise Price
$ 0 **to** 3	1,724	4.7	$ 1.64	1,598	$ 1.55
3 **to** 6	8,303	7.5	4.63	3,066	4.31
6 **to** 9	854	3.0	6.90	848	6.89
9 **to** 12	2,857	7.1	11.00	1,383	10.98
12 **to** 15	619	6.9	12.29	308	12.39
15 **to** 18	95	7.5	15.39	47	15.39
$ 0 **to** 18	14,452	6.8	$ 6.06	7,250	$ 5.69

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The weighted average remaining contractual life of stock option awards exercisable under the Incentive Plan at December 31, 2017 was 5.1 years.

The aggregate intrinsic value of stock option awards outstanding and exercisable under the Incentive Plan at December 31, 2017 was $7,631. The aggregate intrinsic value represents the value (the period's closing market price, less the exercise price, times the number of in-the-money stock option awards) that would have been received by all stock option award holders under the Incentive Plan had they exercised their stock option awards at the end of the year.

The total fair value of the stock option awards vested under the Incentive Plan was $9,310 during 2017, $6,380 during 2016 and $4,492 during 2015.

As of December 31, 2017, the number of stock option awards vested and expected to vest under the Incentive Plan is 13,267. The weighted average exercise price of these stock option awards is $5.95 and their weighted average remaining contractual life is 6.8 years.

The following table summarizes the changes in the number and weighted-average grant-date fair value of non-vested stock option awards during 2017:

	Non-Vested Stock Option Awards	Weighted Average Grant-Date Fair Value
Balance December 31, 2016	5,598	$ 5.40
Stock option awards granted	3,915	3.63
Stock option awards vested	(1,916)	4.86
Stock option awards forfeited	(395)	5.84
Balance December 31, 2017	7,202	$ 4.56

As of December 31, 2017, there was approximately $17,785 of total unrecognized compensation cost related to non-vested employee stock option awards and restricted stock units granted by the Company. That cost is expected to be recognized as follows: $7,607 in 2018, $5,452 in 2019, $3,365 in 2020 and $1,361 in 2021.

Employee Stock Purchase Plan

The Company has reserved a total of 1,475 shares of common stock to be purchased under the ESPP, of which 326 shares remain available for purchase at December 31, 2017. Eligible employees may authorize up to 15% of their salary to purchase common stock at the lower of 85% of the beginning or 85% of the ending price during six-month purchase intervals. No more than 3 shares may be purchased by any one employee at the six-month purchase dates and no employee may purchase stock having a fair market value at the commencement date of $25 or more in any one calendar year.

There were 95, 75 and 41 shares of common stock purchased under the ESPP in 2017, 2016, and 2015, respectively, at a weighted average price per share of $3.61, $4.36 and $8.65, respectively. Expense of $200, $147 and $220 related to the ESPP was recognized during 2017, 2016, and 2015, respectively. Compensation expense for shares purchased under the ESPP related to the purchase discount and the “look-back” option were determined using a Black-Scholes option pricing model. The weighted average grant date fair values of shares granted under the ESPP during 2017, 2016, and 2015, were $2.18, $1.95 and $4.93, respectively.

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Note 8 — Income Taxes

The Company has incurred net losses since inception and, consequently, has not recorded any U.S. Federal and state income tax expense or benefit. The differences between the Company's effective tax rate and the statutory tax rate in 2017, 2016, and 2015 are as follows:

	2017	2016	2015
Income tax benefit at federal statutory rate	$(23,024)	$(19,300)	$(15,057)
State and local income taxes net of federal tax benefit	(1,611)	(1,173)	(819)
Permanent items	910	1,057	560
Rate change	71,155	1,080	1,012
Expiration of attribute carryforwards	918	559	330
Effect of ASU 2016-09	(5,949)	—	—
Research and development tax credits	(1,977)	(4,681)	(10,454)
Orphan drug credit	564	1,798	4,307
Other	1,639	822	(218)
Change in valuation allowance	(42,625)	19,838	20,339
Income tax expense	$—	$—	$—

In December 2017, the Tax Cuts and Jobs Act ("TCJA") was signed into law. Among other things, the TCJA permanently lowers the corporate federal income tax rate to 21% from the existing maximum rate of 35%, effective for tax years including or commencing January 1, 2018. As a result of the reduction of the corporate federal income tax rate to 21%, U.S. GAAP requires companies to revalue their deferred tax assets and deferred tax liabilities as of the date of enactment, with the resulting tax effects accounted for in the reporting period of enactment. This revaluation resulted in a provision of $73,474 to income tax expense in continuing operations and a corresponding reduction in the valuation allowance. As a result, there was no impact on our consolidated statements of operations from the reduction in tax rate. The other provisions of the TCJA did not have a material impact on the consolidated financial statements.

We adopted ASU 2016-09 during the quarter ended March 31, 2017. As a result of the adoption, the net federal and state operating losses deferred tax assets increased by $5,949 million and were offset by a corresponding increase in the valuation allowance. The adoption of ASU 2016-09 had no impact on our consolidated balance sheets or consolidated statements of operations.

The Company recognizes the impact of a tax position in its financial statements if it is more likely than not that the position will be sustained on audit based on the technical merits of the position. The Company has concluded that it has an uncertain tax position pertaining to its research and development and orphan drug credit carryforwards. The Company has established these credits based on information and calculations it believes are appropriate and the best estimate of the underlying credit. Any changes to the Company's unrecognized tax benefits are offset by an adjustment to the valuation allowance and there would be no impact on the Company's financial statements. The Company does not expect its unrecognized tax benefits to change significantly over the next 12 months.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2017	2016
Balance at January 1,	$4,255	$3,085
Additions to current period tax positions	495	1,170
Additions to prior period tax positions	—	—
Reductions to prior period tax provisions	—	—
Balance at December 31,	$4,750	$4,255

The Company's ability to utilize the net operating loss and tax credit carryforwards in the future may be subject to substantial restrictions in the event of past or future ownership changes as defined in Section 382 of the Internal Revenue Code of 1986, as amended and similar state tax law.

Significant components of the Company's deferred tax assets and liabilities are as follows:

	2017	2016
Deferred tax assets:		
Net federal and state operating losses	$117,787	$158,618
Research and development credits	55,208	53,231
Deferred revenue	1,854	3,484
Stock-based compensation	6,424	8,952
Other	2,046	2,849
Total deferred tax assets	183,319	227,134
Deferred tax liabilities:		
Fixed assets	(421)	(674)
Foreign currency derivative	(478)	(1,415)
Total deferred tax liabilities	(899)	(2,089)
Valuation allowance	(182,420)	(225,045)
Net deferred tax assets	$—	$—

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The majority of the Company's deferred tax assets relate to net operating loss and research and development carryforwards that can only be realized if the Company is profitable in future periods. It is uncertain whether the Company will realize any tax benefit related to these carryforwards. Accordingly, the Company has provided a full valuation allowance against the net deferred tax assets due to uncertainties as to their ultimate realization. The valuation allowance will remain at the full amount of the deferred tax assets until it is more likely than not that the related tax benefits will be realized. The Company's valuation allowance decreased by $42,625 in 2017 primarily because of the remeasurement required by TCJA and increased by $19,837 in 2016 and $20,339 in 2015.

As of December 31, 2017, the Company had federal operating loss carryforwards of $484,705, state net operating loss carryforwards of $431,470, and research and development and orphan drug credit carryforwards of $59,958, which will expire at various dates from 2018 through 2036. The federal losses begin to expire in 2018, the state losses begin to expire in 2018 and the research and development credit carryforwards begin to expire in 2018.

Tax years 2014-2016 remain open to examination by the major taxing jurisdictions to which the Company is subject. Additionally, years prior to 2014 are also open to examination to the extent of loss and credit carryforwards from those years. The Company recognizes interest and penalties accrued related to unrecognized tax benefits as components of its income tax provision. However, there were no provisions or accruals for interest and penalties in 2017, 2016 and 2015.

Note 9 — Employee 401(k) Plan

In January 1991, the Company adopted an employee retirement plan ("401(k) Plan") under Section 401(k) of the Internal Revenue Code covering all employees. Employee contributions may be made to the 401(k) Plan up to limits established by the Internal Revenue Service. Company matching contributions may be made at the discretion of the Board of Directors. The Company made matching contributions of $664, $504 and $366, in 2017, 2016 and 2015, respectively.

Note 10 — Collaborative and Other Research and Development Contracts

National Institute of Allergy and Infectious Diseases ("NIAID/HHS"). In September 2013, NIAID/HHS contracted with the Company for the development of galidesivir as a treatment for Marburg virus disease. NIAID/HHS, part of the National Institutes of Health, made an initial award of $5,000 to the Company. The goals of this contract,

including amendments, are to file IND applications for intravenous (“i.v.”) and intramuscular (“i.m.”) galidesivir for the treatment of Marburg virus disease and other hemorrhagic fever virus diseases, including Ebola virus disease, and to conduct an initial Phase 1 human clinical trial. As of December 31, 2017, the total NIAID/HHS contract amount to advance the program through the completion of the Phase I clinical program is $39,477. As of December 31, 2017, all options have been exercised under this contract.

U.S. Department of Health and Human Services (“BARDA/HHS”). On March 31, 2015, the Company announced that BARDA/HHS had awarded the Company a contract for the continued development of galidesivir as a potential treatment for diseases caused by RNA pathogens, including filoviruses. This BARDA/HHS contract includes a base contract of $16,265 to support galidesivir drug manufacturing, as well as $22,855 in additional development options that can be exercised by the government, bringing the potential value of the contract to $39,120. As of December 31, 2017, a total of $20,574 has been awarded under exercised options within this contract.

The contracts with NIAID/HHS and BARDA/HHS are cost-plus-fixed-fee contracts. That is, the Company is entitled to receive reimbursement for all costs incurred in accordance with the contract provisions that are related to the development of galidesivir plus a fixed fee, or profit. BARDA/HHS and NIAID/HHS will make periodic assessments of progress and the continuation of the contract is based on the Company’s performance, the timeliness and quality of deliverables, and other factors. The government has rights under certain contract clauses to terminate these contracts. These contracts are terminable by the government at any time for breach or without cause.

Seqirus UK Limited (“SUL”). On June 16, 2015, the Company and Seqirus UK Limited ("SUL"), a limited company organized under the laws of the United Kingdom and a subsidiary of CSL Limited, a company organized under the laws of Australia, entered into a License Agreement (the "SUL Agreement") granting SUL and its affiliates worldwide rights to develop, manufacture and commercialize RAPIVAB (peramivir injection) for the treatment of influenza except for the rights to conduct such activities in Israel, Japan, Korea and Taiwan (the permitted geographies together constituting the "Territory"). Peramivir is an intravenous treatment for acute uncomplicated influenza and is currently approved for use in the United States, Canada, Japan, Taiwan and Korea. Peramivir is the first and only intravenous influenza treatment in the world and was approved by the U.S. Food and Drug Administration in December 2014 for the treatment of acute uncomplicated influenza in patients 18 years and older who have been symptomatic for no more than two days. The Company retains all rights and associated economics to procure pandemic stockpiling orders for RAPIVAB from the U.S. Government, while SUL has the right to pursue government stockpiling outside the U.S.

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Pursuant to the SUL Agreement, RAPIVAB will be commercialized by CSL's subsidiary, SUL, which specializes in influenza prevention through the supply of seasonal and pandemic vaccine to global markets. SUL will manufacture, commercialize and exercise decision-making authority with respect to the development and commercialization of RAPIVAB within the Territory and be responsible for all related costs, including sales and promotion.

Under the terms of the SUL Agreement, the Company is responsible for fulfilling all post-marketing approval commitments in connection with the FDA's approval of the NDA, and upon fulfillment will transfer ownership of and financial responsibility for the NDA to SUL. Pursuant to potential rights to sell RAPIVAB in Canada and the EU, the Company is also responsible for regulatory filings and interactions with the Health Canada and the European Medicines Agency ("EMA") until marketing approval for RAPIVAB is obtained and assigned to SUL. In accordance with the SUL Agreement, the Company and SUL formed a joint steering committee, composed of an equal number of representatives from each party, to oversee, review and coordinate the conduct and progress of the commercialization of RAPIVAB in the Territory and any additional development.

Under the terms of the SUL Agreement, the Company received an upfront payment of $33,740, has received $7,000 of milestone payments and may receive an additional $5,000 milestone payment related to the successful marketing approval by the EMA for an adult indication in the EU (ALPIVAB). The Company is also entitled under the SUL Agreement to receive tiered royalties at a percentage rate beginning in the mid-teens contingent upon meeting minimum thresholds of net sales, as well as a low-thirties percentage of the gross profit from government stockpiling purchases made outside the U.S. Specifically, the Company receives tiered royalties at a percentage rate in the mid-teens to low-forties on net sales in the U.S. during a Contract Year (defined as July 1 - June 30) and tiered royalties at a percentage rate in the mid-teens to mid-twenties on net sales in the Territory, other than in the U.S., during a Calendar Year, each subject to certain downward adjustments for circumstance or events impacting the overall market opportunity. SUL's royalty payment obligations commence on the date of the SUL Agreement and expire, on a country-by-country basis, upon the later of (i) the expiration of legal exclusivity in such country and (ii) ten years from the date of the SUL Agreement (the "Royalty Term"). The Company developed peramivir under a license from UAB and will owe sublicense payments to them on any future milestone payments and/or royalties received by the Company from SUL.

Shionogi & Co., Ltd. (“Shionogi”). In February 2007, the Company entered into an exclusive license agreement with Shionogi to develop and commercialize peramivir in Japan for the treatment of seasonal and potentially life-threatening human influenza. Under the terms of the agreement, Shionogi obtained rights to injectable formulations of peramivir in Japan. The Company developed peramivir under a license from UAB and will owe sublicense payments to them on any future milestone payments and/or royalties received by the Company from Shionogi. In October 2008, the Company and Shionogi amended the license agreement to expand the territory covered by the agreement to include Taiwan. Shionogi has commercially launched peramivir under the commercial name RAPIACTA in Japan and Taiwan.

In December 2017, the Company, on behalf of Royalty Sub, instituted arbitration proceedings against Shionogi in order to resolve a dispute with Shionogi under the Shionogi Agreement regarding the achievement of sales milestones and escalating royalties. In the event that the Company prevails in the arbitration, any amounts realized in the arbitration or in respect of the milestone payments and escalating royalties that are the subject of the arbitration would be for the benefit of Royalty Sub and be used by Royalty Sub to service its obligations under the non-recourse PhaRMA Notes (except for any amounts realized by the Company in respect of royalties relating to sales to Japanese governmental entities, which amounts would be retained by the Company). The costs associated with the arbitration proceedings are expected to be paid out of the assets of Royalty Sub in accordance with the terms of the indenture and servicing agreement relating to the PhaRMA Notes, except to the extent such costs are recovered in connection with any arbitration award in favor of the Company and Royalty Sub if they prevail in the arbitration proceedings. Arbitration proceedings, like other legal proceedings, are inherently uncertain. As a result, the Company cannot assure you that the Company will prevail in the arbitration. As any arbitration award in favor of the Company would accrue primarily to the benefit of Royalty Sub and the holders of the PhaRMA Notes, and because the costs associated with the arbitration proceedings are expected to come out of the assets of Royalty Sub if not recovered as part of any arbitration award in favor of the Company and Royalty Sub, the Company does not currently anticipate that these arbitration proceedings will have a material adverse impact on the Company.

Green Cross Corporation ("Green Cross"). In June 2006, the Company entered into an agreement with Green Cross to develop and commercialize peramivir in Korea. Under the terms of the agreement, Green Cross will be responsible for all development, regulatory, and commercialization costs in Korea. The Company received a one-time license fee of $250. The license also provides that the Company will share in profits resulting from the sale of peramivir in Korea, including the sale of peramivir to the Korean government for stockpiling purposes. Furthermore, Green Cross will pay the Company a premium over its cost to supply peramivir for development and any future marketing of peramivir products in Korea.

Mundipharma International Holdings Limited ("Mundipharma"). In February 2006, the Company entered into an exclusive, royalty bearing right and license agreement with Mundipharma for the development and commercialization of Mundesine, a Purine Nucleoside Phosphorylase ("PNP") inhibitor, for use in oncology (the "Original Agreement"). Under the terms of the Original Agreement, Mundipharma obtained rights to Mundesine in markets across Europe, Asia, and Australasia in exchange for a $10,000 up-front payment.

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The Company deferred revenue recognition of the $10,000 up-front payment that was received from Mundipharma in February 2006 because the Company was involved in the continued development of Mundesine. Amortization of this revenue commenced in February 2006 and was initially scheduled to end in October 2017, which is the date of expiration for the last-to-expire patent covered by the agreement. The Company also deferred revenue recognition of a $5,000 payment received from Mundipharma in connection with the initiation of a clinical trial in 2007. Amortization of this revenue commenced in 2007 and was initially scheduled to end in October 2017. Under its agreement with AECOM/IRL, the Company paid sublicense payments related to these upfront cash payments received from Mundipharma. Expense recognition of these sublicense payments was deferred and recognized under the same term as the related deferred revenue.

On November 11, 2011, the Company entered into the Amended and Restated License and Development Agreement (the “Amended and Restated Agreement”) with Mundipharma, amending and restating the Original Agreement. Under the terms of the Amended and Restated Agreement, Mundipharma obtained worldwide rights to Mundesine. Commencing on November 11, 2011, Mundipharma controls the development and commercialization of Mundesine and assumes all future development and commercialization costs. The Amended and Restated Agreement provides for the possibility of future event payments totaling $15,000 for achieving specified regulatory events for certain indications and tiered royalties ranging from mid to high single-digit percentages of net product sales in each country where Mundesine is sold by Mundipharma. These royalties are subject to downward adjustments based on the then-existing patent coverage and/or the availability of generic compounds in each country.

The Amended and Restated Agreement is a multiple element arrangement for accounting purposes, in which the Company is required to deliver to Mundipharma both the worldwide rights to Mundesine in the field of oncology and the transfer of product data and know-how to permit Mundipharma to develop and commercialize Mundesine (the “Knowledge Transfer”). The Company accounted for these elements as a combined unit of accounting as they do not have stand-alone value to Mundipharma. The worldwide license rights were granted to Mundipharma on November 11, 2011 and the Knowledge Transfer was completed during the first quarter of 2012. Upon completion of the Knowledge Transfer, the remaining deferred revenue and deferred expense was recognized in full.

Albert Einstein College of Medicine of Yeshiva University and Industrial Research, Ltd. (“AECOM” and “IRL” respectively). In June 2000, the Company licensed a series of potent inhibitors of PNP from AECOM and IRL, (collectively, the “Licensors”). The lead product candidates from this collaboration are forodesine and ulodesine. The Company has obtained worldwide exclusive rights to develop and ultimately distribute these, or any other, product candidates that might arise from research on these inhibitors. The Company has the option to expand the Agreement to include other inventions in the field made by the investigators or employees of the Licensors. The Company agreed to use commercially reasonable efforts to develop these drugs. In addition, the Company has agreed to pay certain milestone payments for each licensed product (which range in the aggregate from $1,400 to almost $4,000 per indication) for future development of these inhibitors, single digit royalties on net sales of any resulting product made by the Company, and to share approximately one quarter of future payments received from other third-party partners,

if any. In addition, the Company has agreed to pay annual license fees, which can range from $150 to $500, that are creditable against actual royalties and other payments due to the Licensors. This agreement may be terminated by the Company at any time by giving 60 days advance notice or in the event of material uncured breach by the Licensors.

In May 2010, the Company amended the licensee agreement through which the Company obtained worldwide exclusive rights to develop and ultimately distribute any product candidates that might arise from research on a series of PNP inhibitors, including forodesine and ulodesine. Under the terms of the amendment, the Licensors agreed to accept a reduction of one-half in the percentage of future payments received from third-party sub licensees of the licensed PNP inhibitors that must be paid to the Licensors. This reduction does not apply to (i) any milestone payments the Company may receive in the future under its license agreement dated February 1, 2006 with Mundipharma and (ii) royalties received from its sub licensees in connection with the sale of licensed products, for which the original payment rate will remain in effect. The rate of royalty payments to the Licensors based on net sales of any resulting product made by the Company remains unchanged.

In consideration for these modifications in 2010, the Company issued to the Licensors shares of its common stock with an aggregate value of $5,911 and paid the Licensors $90 in cash. Additionally, at the Company’s sole option and subject to certain agreed upon conditions, any future non-royalty payments due to be paid by it to the Licensors under the license agreement may be made either in cash, in shares of its common stock, or in a combination of cash and shares.

On November 17, 2011, the Company further amended its agreements with the Licensors whereby the Licensors agreed to accept a reduction of one-half in the percentage of Net Proceeds (as defined) received by the Company under its Amended and Restated Agreement with Mundipharma that will be paid to AECOM/IRL.

On June 19, 2012, the Company further amended its agreements with AECOM/IRL whereby the parties clarified the definition of the field with respect to PNP inhibition and AECOM/IRL agreed to exclusive worldwide license of galidesivir to BioCryst for any antiviral use.

BIOCRYST PHARMACEUTICALS, INC.
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(In thousands, except per share amounts)

At its sole option and subject to certain agreed upon conditions, any future non-royalty payments due to be paid by the Company to AECOM/IRL under the license agreement may be made either in cash, in shares of the Company's common stock, or in a combination of cash and shares.

On January 6, 2014, the Carbohydrate Chemistry Research Team from Callaghan Innovation Research Limited, formerly Industrial Research Limited, transferred to Victoria University of Wellington ("VUW") to establish the Ferrier Research Institute. The intellectual property rights relating to this research team, and the contracts relating to that intellectual property were transferred to a wholly owned subsidiary of VUW, including the contracts to which BioCryst is a party. The parties executed novation agreements in order to effectuate the transfer. Except for a substitution of parties, the terms and conditions of the contracts are substantially the same

The University of Alabama at Birmingham ("UAB"). The Company currently has agreements with UAB for influenza neuraminidase and complement inhibitors. Under the terms of these agreements, UAB performed specific research for the Company in return for research payments and license fees. UAB has granted the Company certain rights to any discoveries in these areas resulting from research developed by UAB or jointly developed with the Company. The Company has agreed to pay single digit royalties on sales of any resulting product and to share in future payments received from other third-party partners. The Company has completed the research under the UAB agreements. These two agreements have initial 25-year terms, are automatically renewable for five-year terms throughout the life of the last patent and are terminable by the Company upon three months' notice and by UAB under certain circumstances. Upon termination both parties shall cease using the other parties' proprietary and confidential information and materials, the parties shall jointly own joint inventions and UAB shall resume full ownership of all UAB licensed products. There is currently no activity between the Company and UAB on these agreements, but when the Company licenses this technology, such as in the case of the Shionogi, Green Cross and SUL agreements, or commercializes products related to these programs, the Company will owe sublicense fees or royalties on amounts it receives.

Note 11 — Quarterly Financial Information (Unaudited)

	First	Second	Third	Fourth
2017 Quarters				
Revenues	$9,437	$3,099	$8,760	$3,890
Net Loss	(14,219)	(16,886)	(15,134)	(19,543)
Basic and diluted net loss per share	(0.19)	(0.21)	(0.18)	(0.20)
2016 Quarters				
Revenues	$4,820	$4,787	$7,763	$8,983
Net Loss	(22,832)	(16,281)	(11,528)	(4,503)
Basic and diluted net loss per share	(0.31)	(0.22)	(0.16)	(0.06)

Note 12 — Recent Accounting Pronouncements

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118"), which provides guidance on accounting for the tax effects of the Tax Cuts and Jobs Act ("TCJA"). SAB 118 provides a measurement period that should not extend beyond one year from the TCJA enactment date for companies to complete the accounting under ASC 740, Income Taxes. As of December 31, 2017, the Company has not completed its accounting related to the enactment of the Tax Act. However, the Company has made reasonable estimates of the effects on its income tax provision with respect to certain items, primarily the revaluation of its existing U.S. deferred tax balances as described in Note 8.

In November 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update 2016-18: *Statement of Cash Flows (Topic 230): Restricted Cash* ("ASU 2016-18"). The new standard requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The standard is effective for annual periods beginning after December 15, 2017, and interim periods within those annual reporting periods. Early adoption is permitted. The Company is currently evaluating the impact of this update on its consolidated financial statements.

In August 2016, the FASB issued Accounting Standards Update No. 2016-15: *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"). The amendments in this update clarify how entities should classify certain cash receipts and cash payments on the Consolidated Statements of Cash Flows. The new guidance also clarifies how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flows. ASU 2016-15 will be effective for annual periods beginning after December 15, 2017, including interim periods within those annual reporting periods, but early adoption is permitted. The Company is currently evaluating the impact of this update on its consolidated financial statements.

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In March 2016, the FASB issued Accounting Standards Update No. 2016-09: *Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09"). The amendments in this update simplify several aspects of the accounting for employee share-based payment transactions, including the accounting for income taxes, forfeitures and statutory tax withholding requirements, as well as classification in the statement of cash flows. ASU 2016-09 eliminates the requirement that excess tax benefits be realized as a reduction in current taxes payable before the associated tax benefit can be recognized as an increase in paid in capital. Under ASU 2016-09, these previously unrecognized deferred tax assets were recognized on a modified retrospective basis as of January 1, 2017, the start of the year in which the Company adopted ASU 2016-09. The U.S. federal and state net operating losses and credits recognized as of January 1, 2017 have been offset by a full valuation allowance. As a result, there is no cumulative-effect adjustment to retained earnings as of December 31, 2017. The Company elected not to change its policy on accounting for forfeitures and continues to estimate the total number of awards for which the requisite service period will not be rendered. The Company adopted ASU 2016-09 as of January 1, 2017. Adoption of ASU 2016-09 did not have a material impact on the Company's consolidated financial statements.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02: *Leases (Topic 842)* ("ASU 2016-02"). The amendments in this update require lessees, among other things, to recognize lease assets and lease liabilities on the balance sheet for all leases with terms greater than 12 months. This update also introduces new disclosure requirements for leasing arrangements. ASU 2016-02 will be effective for the Company in fiscal year 2019, but early adoption is permitted. The Company is currently evaluating the impact of this update on its consolidated financial statements.

In January 2016, the FASB issued Accounting Standards Update No. 2016-01: *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* ("ASU 2016-01"). The amendments in this update address certain aspects of recognition, measurement, presentation and disclosure of financial instruments. In particular, the amendments in this update supersede, for public business entities, the requirement to disclose the methods and significant assumptions used in calculating the fair value of financial instruments required to be disclosed for financial instruments measured at amortized cost on the balance sheet. ASU 2016-01 will be effective for the Company in fiscal year 2018, but early adoption is permitted. The Company does not expect this standard to have a material impact on its consolidated financial statements.

In July 2015, the FASB issued Accounting Standards Update No. 2015-11: *Inventory (Topic 330): Simplifying the Measurement of Inventory* ("ASU 2015-11"), which changes the measurement principle for inventory from the lower of cost or market to the lower of cost and net realizable value. ASU 2015-11 defines net realizable value as the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The update does not apply to inventory that is measured using last-in, first-out or the retail inventory method. The update applies to all other inventory, which includes inventory that is measured using first-in, first-out or average cost methods. The amendments in ASU 2015-11 are effective for the Company for fiscal years, and the interim periods within those years, beginning after December 15, 2016. The Company adopted ASU 2015-11 as of

January 1, 2017. Adoption did not have a material impact on its consolidated financial statements.

In May 2014, the FASB issued Standards Update No. 2014-09: *Revenue from Contracts with Customers (Topic 606)* ("ASU 2014-09"), which provides a single, comprehensive revenue recognition model for all contracts with customers. The core principal of this ASU is that an entity should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. In July 2015, the FASB finalized a one year delay in the effective date of this standard, which will now be effective January 1, 2018; however, early adoption is permitted any time after the original effective date, January 1, 2017. Companies can transition to the new standard under the full retrospective method or the modified retrospective method. The Company will adopt the standard effective January 1, 2018 and expects to utilize the modified retrospective methodology. The Company is continuing to evaluate the effect that the standard will have on its consolidated financial statements and related disclosures.

Note 13 — Subsequent Event

Agreement and Plan of Merger

On January 21, 2018, BioCryst, Idera Pharmaceuticals, Inc. ("Idera"), a Delaware corporation, Nautilus Holdco, Inc., a Delaware corporation and a direct, wholly owned subsidiary of BioCryst ("Holdco"), Island Merger Sub, Inc., a Delaware corporation and a direct, wholly owned subsidiary of Holdco ("Merger Sub A"), and Boat Merger Sub, Inc., a Delaware corporation and a direct, wholly owned subsidiary of Holdco ("Merger Sub B"), entered into an Agreement and Plan of Merger (the "Merger Agreement"). Pursuant to the Merger Agreement, and subject to the satisfaction or waiver of the conditions specified therein, (a) Merger Sub A shall be merged with and into Idera (the "Idera Merger"), with Idera surviving as a wholly owned subsidiary of Holdco, and (b) Merger Sub B shall be merged with and into BioCryst (the "BioCryst Merger", and, together with the Idera Merger, the "Mergers"), with BioCryst surviving as a wholly owned subsidiary of Holdco. Holdco will be renamed prior to the closing of the Mergers.

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(In thousands, except per share amounts)

Pursuant to the Merger Agreement, upon completion of the Mergers, each issued and outstanding share of Idera common stock will be converted into the right to receive 0.20 shares of Holdco common stock (the "Idera exchange ratio"), and each issued and outstanding share of BioCryst common stock will be converted into the right to receive 0.50 shares of Holdco common stock (the "BioCryst exchange ratio" and together with the Idera exchange ratio, the "exchange ratios"). The exchange ratios will not be adjusted for changes in the market price of either BioCryst common stock or Idera common stock between the date of signing of the Merger Agreement and completion of the Mergers. Upon completion of the Mergers, each issued and outstanding share of Idera preferred stock (with certain exceptions) will be converted into the right to receive an amount of Holdco common stock based on its liquidation preference.

The Merger Agreement has been unanimously approved by the boards of directors of BioCryst and Idera. The transaction is subject to approval by the stockholders of both companies, as well as regulatory approvals and satisfaction of other customary closing conditions. On February 15, 2018, the Federal Trade Commission notified BioCryst that its request for early termination of the waiting period under the HSR Act had been granted. Affiliates of Baker Bros. Advisors, LP ("Baker Brothers"), which, as of the date of the Merger Agreement, are the beneficial owner of approximately 14% of issued and outstanding BioCryst common stock and approximately 9% of issued and outstanding Idera common stock, have agreed, among other things, to vote their shares of BioCryst common stock and Idera common stock in favor of the proposal to adopt the Merger Agreement at each of the BioCryst special meeting and Idera special meeting. The combined company, which will be renamed post-closing, will be headquartered in Exton, PA, at the current Idera headquarters, with a consolidated research center in Birmingham, AL, at the current BioCryst facility. The transaction is expected to be completed during the second quarter of 2018.

On March 6, 2018, a purported stockholder of BioCryst filed a putative class action lawsuit against BioCryst, the BioCryst board of directors, Idera, Holdco, Merger Sub A and Merger Sub B in the United States District Court for the District of Delaware, captioned *Melvyn Klein v. BioCryst Pharmaceuticals, Inc., et al.*, Case No. 1:18-cv-00358-UNA. The complaint alleges that the defendants violated Sections 14(a) and 20(a) of the Exchange Act because the preliminary Form S-4 filed with the Securities and Exchange Commission allegedly contains material omissions and misstatements. The complaint seeks, among other things, injunctive relief preventing the consummation of the Mergers until additional disclosures are made, and damages. The defendants believe that the action is without merit.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of BioCryst Pharmaceuticals, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of BioCryst Pharmaceuticals, Inc. (the Company) as of December 31, 2017 and 2016, the related consolidated statements of comprehensive loss, stockholders' equity (deficit) and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated March 12, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company’s auditor since 1993.

Raleigh, North Carolina

March 12, 2018

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of BioCryst Pharmaceuticals, Inc.

Opinion on Internal Control over Financial Reporting

We have audited BioCryst Pharmaceuticals Inc.'s internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway (2013 framework) (the COSO criteria). In our opinion, BioCryst Pharmaceuticals, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of BioCryst Pharmaceuticals, Inc. as of December 31, 2017 and 2016, the related consolidated statements of comprehensive loss, stockholders' equity (deficit) and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and our report dated March 12, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those

policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Raleigh, North Carolina

March 12, 2018

ITEM 9. ***CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE***

None.

ITEM 9A. ***CONTROLS AND PROCEDURES***

Evaluation of Disclosure Controls and Procedures

We maintain a set of disclosure controls and procedures that are designed to ensure that information relating to BioCryst Pharmaceuticals, Inc. required to be disclosed in our periodic filings under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported in a timely manner under the Exchange Act of 1934. We carried out an evaluation as required by paragraph (b) of Rule 13a-15 or Rule 15d-15 under the Exchange Act, under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) or Rule 15d-15 under the Exchange Act). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2017, our disclosure controls and procedures are effective. We believe that our disclosure controls and procedures will ensure that information required to be disclosed in the reports filed or submitted by us under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission, and include controls and procedures designed to ensure that information required to be disclosed by us in such reports is accumulated and communicated to our management, including our Chairman and Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Management of BioCryst Pharmaceuticals, Inc. is responsible for establishing and maintaining adequate internal control over financial reporting and for the assessment of the effectiveness of internal control over financial reporting. As defined by the Securities and Exchange Commission, internal control over financial reporting is a process designed by, or under the supervision of our principal executive and principal financial officers and effected by our Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the financial statements in accordance with U.S. GAAP.

Our internal control over financial reporting is supported by written policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the

financial statements in accordance with U.S. GAAP, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In connection with the preparation of our annual financial statements, management has undertaken an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework) (the COSO Framework). Management's assessment included an evaluation of the design of our internal control over financial reporting and testing of the operational effectiveness of those controls.

Based on this assessment, management has concluded that as of December 31, 2017, our internal control over financial reporting was effective. Management believes our internal control over financial reporting will provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP.

Ernst & Young LLP, the independent registered public accounting firm that audited our financial statements included in this report, has issued an attestation report on the Company's internal control over financial reporting, a copy of which appears on page 80 of this annual report.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. ***OTHER INFORMATION***

None.

PART III

ITEM 10. ***DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE***

The information required by this item is set forth under the captions *"Items to be Voted on — 1. Election of Directors," "Executive Officers," "Section 16(a) Beneficial Ownership Reporting Compliance"* and *"Corporate Governance"* in our definitive Proxy Statement for the 2018 Annual Meeting of Stockholders and incorporated herein by reference or, in the event we do not prepare and file such Proxy Statement, such information shall be filed as an amendment to this Form 10-K. Such information shall be filed no later than April 30, 2018.

ITEM 11. ***EXECUTIVE COMPENSATION***

The information required by this item is set forth under the captions *"Compensation Discussion and Analysis," "Summary Compensation Table," "Grants of Plan-Based Awards in 2017," "Outstanding Equity Awards at December 31, 2017," "2017 Option Exercises and Stock Vested," "Potential Payments Upon Termination or Change in Control," "2017 Director Compensation," "Compensation Committee Interlocks and Insider Participation"* and *"Compensation Committee Report"* in our definitive Proxy Statement for the 2018 Annual Meeting of Stockholders and incorporated herein by reference or, in the event we do not prepare and file such Proxy Statement, such information shall be filed as an amendment to this Form 10-K. Such information shall be filed no later than April 30, 2018.

ITEM 12. ***SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS***

The information required by this item is set forth under the captions *"Equity Compensation Plan Information"* and *"Security Ownership of Certain Beneficial Owners and Management"* in our definitive Proxy Statement for the 2018 Annual Meeting of Stockholders and incorporated herein by reference or, in the event we do not prepare and file such Proxy Statement, such information shall be filed as an amendment to this Form 10-K. Such information shall be filed no later than April 30, 2018.

ITEM 13.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is set forth under the captions *"Certain Relationships and Related Transactions"* and "Corporate *Governance"* in our definitive Proxy Statement for the 2018 Annual Meeting of Stockholders and incorporated herein by reference or, in the event we do not prepare and file such Proxy Statement, such information shall be filed as an amendment to this Form 10-K. Such information shall be filed no later than April 30, 2018.

ITEM 14. ***PRINCIPAL ACCOUNTING FEES AND SERVICES***

The information required by this item is set forth under the caption *"Ratification of Appointment of Independent Registered Public Accountants"* in our definitive Proxy Statement for the 2018 Annual Meeting of Stockholders and incorporated herein by reference or, in the event we do not prepare and file such Proxy Statement, such information shall be filed as an amendment to this Form 10-K. Such information shall be filed no later than April 30, 2018.

PART IV

ITEM 15. ***EXHIBITS, FINANCIAL STATEMENT SCHEDULES***

(a) Financial Statements

The following financial statements appear in Item 8 of this Form 10-K:

No financial statement schedules are included because the information is either provided in the consolidated financial statements or is not required under the related instructions or is inapplicable and such schedules therefore have been omitted.

(b) *Exhibits.*

Number	Description
2.1*	Agreement and Plan of Merger, dated as January 21, 2018, by and among BioCryst Pharmaceuticals, Inc., Idera Pharmaceuticals, Inc., Nautilus Holdco, Inc., Island Merger Sub, Inc. and Boat Merger Sub, Inc. Incorporated by reference to Exhibit 2.1 to the Company's Form 8-K filed January 22, 2018.
3.1	Third Restated Certificate of Incorporation of Registrant. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed December 22, 2006.
3.2	Certificate of Amendment to the Third Restated Certificate of Incorporation of Registrant. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed July 24, 2007.
3.3	

	Certificate of Amendment to the Third Restated Certificate of Incorporation of Registrant. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed May 7, 2014.
3.4	Certificate of Increase of Authorized Number of Shares of Series B Junior Participating Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed November 4, 2008.
3.5	Certificate of Increase of Authorized Number of Shares of Series B Junior Participating Preferred Stock. Incorporated by reference to Exhibit 3.2 to the Company's Form 8-K filed May 7, 2014.
3.6	Amended and Restated Bylaws of Registrant effective October 29, 2008. Incorporated by reference to Exhibit 3.2 to the Company's Form 8-K filed November 4, 2008.
3.7	Amendment to Amended and Restated By-Laws of BioCryst Pharmaceuticals, Inc., dated January 21, 2018. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed January 22, 2018.
4.1	Indenture, dated as of March 9, 2011 by and between JPR Royalty Sub LLC and U.S. Bank National Association, as trustee. Incorporated by reference to Exhibit 4.3 of the Company's Form 10-Q filed May 6, 2011.
10.1&	Amended and Restated Stock Incentive Plan dated March 29, 2012. Incorporated by reference to Exhibit 10.1 of the Company's Form 8-K, filed May 25, 2012.
10.2&	Amended and Restated Stock Incentive Plan dated March 8, 2014. Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed May 5, 2014.
10.3&	Amended and Restated Stock Incentive Plan, dated April 4, 2016. Incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-8, filed May 23, 2016.
10.4&	Amended and Restated Stock Incentive Plan dated April 3, 2017. Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed May 30, 2017.
10.5&	Amended and Restated Employee Stock Purchase Plan dated March 29, 2012. Incorporated by reference to the Company's Form 8-K, filed May 25, 2012.
10.6&	Amended and Restated Employee Stock Purchase Plan dated March 8, 2014. Incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed May 5, 2014.
10.7&	Form of Notice of Grant of Non-Employee Director Automatic Stock Option and Stock Option Agreement. Incorporated by reference to Exhibit 10.4 of the Company's Form 10-K filed March 4, 2008.
10.8&	Form of Notice of Grant of Stock Option and Stock Option Agreement. Incorporated by reference to Exhibit 10.5 of the Company's Form 10-K filed March 4, 2008.
10.9&	Form of Notice of Grant of Stock Option and Stock Option Agreement. Incorporated by reference to Exhibit 10.7 of the Company's Form 10-K filed March 2, 2015.

10.10&	Form of Notice of Grant of Restricted Stock Unit Award and Restricted Stock Unit Agreement. Incorporated by reference to Exhibit 10.8 of the Company's Form 10-K filed March 2, 2015.
10.11&	Annual Incentive Plan. Incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed March 12, 2012.
10.12&	Executive Relocation Policy. Incorporated by reference to Exhibit 10.2 of the Company's Form 10-K filed March 4, 2008.
10.13&	Amended and Restated Employment Letter Agreement dated February 14, 2007, by and between the Company and Jon P. Stonehouse. Incorporated by reference to Exhibit 10.12 to the Company's Form 10-K for the year ended December 31, 2006, filed March 14, 2007.
10.14&	Employment Letter Agreement between BioCryst Pharmaceuticals, Inc. and Thomas R. Staab II, dated May 23, 2011. Incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed May 25, 2011.
10.15&	Employment Letter Agreement between BioCryst Pharmaceuticals, Inc. and William P. Sheridan dated June 12, 2008. Incorporated by reference to Exhibit 10.27 of the Company's Form 10-Q filed August 8, 2008.
10.16&	Employment Letter Agreement between BioCryst Pharmaceuticals, Inc. and Yarlagadda S. Babu dated April 27, 2012. Incorporated by reference to Exhibit 10.10 of the Company's Form 10-K filed March 10, 2014.
10.17&	Employment Letter Agreement between BioCryst Pharmaceuticals, Inc. and Alane P. Barnes dated August 8, 2013. Incorporated by reference to Exhibit 10.11 of the Company's Form 10-K filed March 10, 2014.
10.18&	Employment Letter Agreement between BioCryst Pharmaceuticals, Inc. and Lynne Powell dated December 30, 2014. Incorporated by reference to Exhibit 10.16 of the Company's Form 10-K filed March 2, 2015.
10.19#	Agreement dated January 3, 2007, between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services, as amended by Amendment number 1 dated January 3, 2007 and Amendment number 2 dated May 11, 2007. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed August 9, 2007. (Portions omitted pursuant to request for confidential treatment.)
10.20	Amendment #3 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services, dated October 2, 2007. Incorporated by reference to Exhibit 10.6 of the Company's Form 10-K filed March 4, 2008.
10.21	Amendment #4 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services dated April 3, 2008. Incorporated by reference to Exhibit 10.29 of the Company's Form 10-Q filed August 8, 2008.
10.22	Amendment #5 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services dated July 2, 2008. Incorporated by reference to Exhibit 10.30 of the Company's Form 10-Q filed August 8, 2008.
10.23	Amendment #6 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services dated August 18, 2008. Incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed November 7, 2008.
10.24	

	Amendment #7 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services dated November 17, 2008. Incorporated by reference to Exhibit 10.12 of the Company's Form 10-K filed March 6, 2009.
10.25	Amendment #8 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services dated March 13, 2009. Incorporated by reference to Exhibit 10.13 of the Company's Form 10-K filed March 9, 2010.
10.26	Amendment #9 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Department of Health and Human Services dated September 18, 2009. Incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q filed November 6, 2009.
10.27	Amendment #10 to the Agreement between the Company and the U.S. Department of Health & Human Services, dated October 15, 2009. Incorporated by reference to Exhibit 10.2 of the Company's Form 10-Q filed November 6, 2009.
10.28	Amendment #11 to the Agreement between the Company and the U.S. Department of Health & Human Services, dated February 23, 2011. Incorporated by reference to Exhibit 10.25 of the Company's Form 10-K filed March 15, 2011.
10.29	Stop-Work Order from U.S. Department of Health and Human Services, dated March 26, 2013, relating to Agreement dated January 3, 2007 between the Company and the U.S. Department of Health and Human Services. Incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q filed May 9, 2013.

10.30	Amendment #13 to the Agreement between the Company and the U.S. Department of Health & Human Services, dated February 15, 2012. Incorporated by reference to Exhibit 10.23 of the Company's Form 10-K filed March 10, 2014.
10.31	Amendment #14 to the Agreement between the Company and the U.S. Department of Health & Human Services, dated June 4, 2013. Incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q filed June 5, 2013.
10.32#	Amendment #15 to the Agreement between the Company and the U.S. Department of Health & Human Services, dated September 5, 2013. Incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q filed November 8, 2013. (Portions omitted pursuant to request for confidential treatment.)
10.33	Amendment #16 to the Agreement between the Company and the U.S. Department of Health & Human Services, dated December 17, 2013. Incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed December 23, 2013.
10.34	Amendment #17 to the Agreement between the Company and the U.S. Department of Health & Human Services, dated February 21, 2014. Incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed February 26, 2014.
10.35	Order for Supplies or Services from the U.S. Department of Health & Human Services, dated November 4, 2009. Incorporated by reference to Exhibit 10.16 of the Company's Form 10-K filed March 9, 2010.
10.36	Amendment #18 to the Agreement between BioCryst Pharmaceuticals, Inc. and the U.S. Department of Health and Human Services, dated March 28, 2014. Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed April 3, 2014.
10.37	Amendment #19 to the Agreement between BioCryst Pharmaceuticals, Inc. and the U.S. Department

	of Health and Human Services, dated April 29, 2014. Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed May 2, 2014.
10.38	Amendment #20 to the Agreement to the Agreement between BioCryst Pharmaceuticals, Inc. and the U.S. Department of Health and Human Services, dated May 30, 2014. Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed June 5, 2014.
10.39#	License, Development and Commercialization Agreement dated as of February 28, 2007, by and between the Company and Shionogi & Co., Ltd. Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q filed May 10, 2007. (Portions omitted pursuant to request for confidential treatment.)
10.40#	First Amendment to License, Development and Commercialization Agreement, effective as of September 30, 2008, between the Company and Shionogi & Co., Ltd. Incorporated by reference to Exhibit 10.19 to the Company's Form 10-K filed March 6, 2009. (Portions omitted pursuant to request for confidential treatment.)

10.41	Riverchase Business Park Warehouse Lease dated July 12, 2000 between RBP, LLC an Alabama Limited Liability Company and the Registrant for office/warehouse space. Incorporated by reference to Exhibit 10.8 to the Company's Form 10-Q for the second quarter ending June 30, 2000 filed August 8, 2000.
10.42	Third Amendment to Lease Agreement dated August 7, 2007, by and between Riverchase Capital LLC, a Florida limited liability company, Stow Riverchase, LLC, a Florida limited liability company, as successor landlord to RBP, LLC and the Company. Incorporated by reference to Exhibit 10.4 of the Company's Form 10-Q filed August 9, 2007.
10.43	Fourth Amendment to the Lease Agreement dated February 1, 2012, by and between Riverchase Capital LLC, a Florida limited liability company, Stow Riverchase, LLC, a Florida limited liability company, as successor landlord to RBP, LLC and the Company. Incorporated by reference to Exhibit 10.27 of the Company's Form 10-K filed March 11, 2013.

10.44	Fifth Amendment to Lease Agreement dated January 15, 2015, by and between Riverchase Capital LLC, a Florida limited liability company, Stow Riverchase, LLC, a Florida limited liability company, as successor landlord to RBP, LLC and the Company. Incorporated by reference to Exhibit 10.42 of the Company's Form 10-K filed March 2, 2015.
10.45	Stock and Warrant Purchase Agreement dated as of August 6, 2007, by and among BioCryst Pharmaceuticals, Inc. and each of the Investors identified on the signature pages thereto. Incorporated by reference to Exhibit 4.1 of the Company's Form 8-K filed August 7, 2007.
10.46	Stock Purchase Agreement, dated as of February 17, 2005, by and among BioCryst Pharmaceuticals, Inc., Baker Bros. Investments, L.P., Baker Biotech Fund II, L.P., Baker Bros. Investments II, L.P., Baker Biotech Fund II (Z), L.P., Baker/Tisch Investments, L.P., Baker Biotech Fund III, L.P., Baker Biotech Fund I, L.P., Baker Biotech Fund III (Z), L.P. and

	14159, L.P. Incorporated by reference to Exhibit 4.1 to the Company's Form 8-K filed February 17, 2005.
10.47#	Development and License Agreement dated as of February 1, 2006, by and between BioCryst Pharmaceuticals, Inc. and Mundipharma International Holdings Limited. Incorporated by reference to Exhibit 10.2 to the Company's Form 8-K/A filed May 2, 2006. (Portions omitted pursuant to request for confidential treatment.)

10.48#	Amended and Restated Development and License Agreement, dated as of November 11, 2011, by and between BioCryst Pharmaceuticals, Inc. and Mundipharma International Corporation Limited. Incorporated by reference to Exhibit 10.32 to the Company's Form 10-K filed March 6, 2012. (Portions omitted pursuant to request for confidential treatment.)
10.49#	License Agreement dated as of June 27, 2000, by and among Albert Einstein College of Medicine, Industrial Research, Ltd. and BioCryst Pharmaceuticals, Inc., as amended by the First Amendment Agreement dated as of July 26, 2002 and the Second Amendment Agreement dated as of April 15, 2005.

Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed November 30, 2005. (Portions omitted pursuant to request for confidential treatment.)

10.50# Third Amendment Agreement by and among Albert Einstein College of Medicine, Industrial Research, Ltd. and BioCryst Pharmaceuticals, Inc., dated as of December 11, 2009. Incorporated by reference to Exhibit 10.33 to the Company's Form 10-K filed March 9, 2010. (Portions omitted pursuant to request for confidential treatment.)

10.51# Fourth Amendment Agreement by and among Albert Einstein College of Medicine, Industrial Research, Ltd. and BioCryst Pharmaceuticals, Inc., dated as of May 5, 2010. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed August 6, 2010. (Portions omitted pursuant to request for confidential treatment.)

10.52# Fifth Amendment Agreement by and among Albert Einstein College of Medicine, Industrial Research, Ltd. and BioCryst Pharmaceuticals, Inc., dated as of November 17, 2011. Incorporated by reference to Exhibit 10.36 to the Company's Form 10-K filed March 6, 2012. (Portions omitted pursuant to request for confidential treatment.)

10.53# Sixth Amendment Agreement by and among Albert Einstein College of Medicine, Industrial Research, Ltd. and BioCryst Pharmaceuticals, Inc., dated as of June 19, 2012. Incorporated by reference to Exhibit 10.1 to the

	Company's Form 10-Q filed August 8, 2012. (Portions omitted pursuant to request for confidential treatment.)
10.54	Novation Agreement among Albert Einstein College of Medicine of Yeshiva University, BioCryst Pharmaceuticals, Inc., Mundipharma International Corporation Limited, Callaghan Innovation Research Limited, and Victoria Link Limited, dated May 18, 2015. Incorporated by reference to Exhibit 10.6 to the Company's Form 10-Q filed August 7, 2015.
10.55	Novation Agreement among Albert Einstein College of Medicine of Yeshiva University, BioCryst Pharmaceuticals, Inc., Callaghan Innovation Research Limited, and Victoria Link Limited, dated June 24, 2015. Incorporated by reference to Exhibit 10.7 to the Company's Form 10-Q filed August 7, 2015.
10.56	Purchase and Sale Agreement, dated as of March 9, 2011 between BioCryst Pharmaceuticals, Inc. and JPR Royalty Sub LLC. Incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q filed May 6, 2011.
10.57	Pledge and Security Agreement, dated as of March 9, 2011 between BioCryst Pharmaceuticals, Inc. and U.S. Bank National Association, as trustee. Incorporated by reference to Exhibit 10.2 of the Company's Form 10-Q filed May 6, 2011.
10.58	Confirmation of terms and conditions of ISDA Master Agreement, dated as of March 7, 2011, between Morgan Stanley Capital Services Inc. and BioCryst Pharmaceuticals, Inc. dated as of March 9, 2011. Incorporated by reference to Exhibit 10.3 of the Company's Form 10-Q filed May 6, 2011.
10.59#	Agreement, dated as of September 12, 2013, between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases. Incorporated by reference to Exhibit 10.2 of the Company's Form 10-Q filed November 8, 2013. (Portions omitted pursuant to request for confidential treatment.)
10.60#	Amendment #1 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated December 26, 2013. Incorporated by reference to Exhibit 10.51 to the Company's Form 10-K filed on March 10, 2014. (Portions omitted pursuant to request for confidential treatment.)
10.61#	Amendment #2 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated January 24, 2014. Incorporated by reference to Exhibit 10.52 to the Company's Form 10-K filed on March 10, 2014. (Portions omitted pursuant to request for confidential treatment.)
10.62#	Amendment #3 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated June 17, 2014. Incorporated by reference to Exhibit 10.5 to the Company's Form 10-Q filed on August 8, 2014. (Portions omitted pursuant to request for confidential treatment.)
10.63#	Amendment #4 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated June 17, 2014. Incorporated by reference to Exhibit 10.6 to the Company's Form 10-Q filed on August 8, 2014. (Portions omitted pursuant to request for confidential treatment.)

10.64#	Amendment #5 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated August 11, 2014. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 7, 2014. (Portions omitted pursuant to request for confidential treatment.)
10.65#	Amendment #6 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated August 27, 2014. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on November 7, 2014. (Portions omitted pursuant to request for confidential treatment.)
10.66#	Amendment #8 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated September 17, 2014. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed on November 7, 2014. (Portions omitted pursuant to request for confidential treatment.)
10.67#	Amendment #9 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated October 29, 2014. Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q filed on November 7, 2014. (Portions omitted pursuant to request for confidential treatment.)
10.68#	Amendment #10 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated February 13, 2015. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on August 7, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.69#	Amendment #11 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated March 19, 2015. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed on August 7, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.70#	Amendment #12 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated June 12, 2015. Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q filed on August 7, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.71#	Amendment #13 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated June 17, 2015. Incorporated by reference to Exhibit 10.5 to the Company's Form 10-Q filed on August 7, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.72#	Amendment #14 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated September 16, 2015. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed on November 6, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.73	Amendment #15 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated November 16, 2015. Incorporated by reference to Exhibit 10.70 to the

	Company's Form 10-K filed on February 26, 2016.
10.74#	Amendment #16 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated December 18, 2015. Incorporated by reference to Exhibit 10.71 to the Company's Form 10-K filed on February 26, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.75	Amendment #17 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated April 18, 2016. Incorporated by reference to Exhibit 10.74 to the Company's Form 10-K filed on February 27, 2017.
10.76#	Amendment #18 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated June 30, 2016. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed on August 8, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.77#	Amendment #19 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated August 10, 2016. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 8, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.78#	Amendment #20 to the Agreement between BioCryst Pharmaceuticals, Inc. and the National Institute of Allergy and Infectious Diseases, dated January 9, 2017. Incorporated by reference to Exhibit 10.77 to the Company's Form 10-K filed on February 27, 2017. (Portions omitted pursuant to request for confidential treatment.)
10.79#	Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated March 27, 2015. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on May 8, 2015. (Portions omitted pursuant to request for confidential treatment.)

10.80#	Amendment #1 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated June 2, 2015. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on August 7, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.81#	Amendment #2 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated July 8, 2015. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 6, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.82#	Amendment #3 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated August 25, 2015. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on November 6, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.83#	Amendment #4 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated February 25, 2016. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on May 9, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.84#	Amendment #5 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated April 11, 2016. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on August 8, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.85#	Amendment #6 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated May 20, 2016. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on August 8, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.86#	Amendment #7 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated September 26, 2016. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed on November 8, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.87	Amendment #8 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated September 20, 2017. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed on November 8, 2017.

(10.88) †	Amendment #9 to the Agreement between BioCryst Pharmaceuticals, Inc. and the Biomedical Advanced Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, dated December 1, 2017.
10.89#	License Agreement by and between BioCryst Pharmaceuticals, Inc. and Seqirus UK Limited, dated as of June 16, 2015. Incorporated by reference to Exhibit 10.8 to the Company's Form 10-Q filed on May 8, 2015. (Portions omitted pursuant to request for confidential treatment.)
10.90#	Credit and Security Agreement, dated as of September 23, 2016, by and among Midcap Financial Trust, as administrative agent, the Lenders listed on the Credit Facility Schedule attached thereto and otherwise party thereto from time to time, BioCryst Pharmaceuticals, Inc., and MDCP, LLC. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed on November 8, 2016. (Portions omitted pursuant to request for confidential treatment.)
10.91	Registration Rights Agreement, dated March 15, 2017, by and between BioCryst Pharmaceuticals, Inc. 667, L.P., and Baker Brothers Life Sciences, L.P. Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed March 17, 2017.
(21)	Subsidiaries of the Registrant.
(23)	Consent of Ernst & Young, LLP, Independent Registered Public Accounting Firm.

(31.1)	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
(31.2)	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
(32.1)	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
(32.2)	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
(101)	Financial statements from the Annual Report on Form 10-K of BioCryst Pharmaceuticals, Inc. for the year ended December 31, 2017, formatted in XBRL: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Comprehensive Loss, (iii) Consolidated Statements of Cash Flows, (iv) Consolidated Statements of Stockholders' Equity and (v) Notes to Consolidated Financial Statements.

†	Confidential treatment requested.
#	Confidential treatment granted.
&	Management contracts.
( )	Filed herewith.
*	The schedules to the Agreement and Plan of Merger have been omitted from this filing pursuant to Item 601(b)(2) of Regulation S-K. Registrant will furnish copies of such schedules to the Securities and Exchange Commission upon request by the Commission.

ITEM 16. ***FORM 10-K SUMMARY.***

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on March 12, 2018.

BIOCRYST
PHARMACEUTICALS,
INC.

By: /s/ Jon P. Stonehouse
Jon P. Stonehouse
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on March 12, 2018:

Signature	**Title(s)**
/s/ Jon P. Stonehouse (Jon P. Stonehouse)	President, Chief Executive Officer and Director (Principal Executive Officer)
/s/ Thomas R. Staab II (Thomas R. Staab II)	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)
/s/ George B. Abercrombie (George B. Abercrombie)	Director
/s/ Fred E. Cohen (Fred E. Cohen, M.D., D. Phil)	Director
/s/ Stanley C. Erck	Director

(Stanley C. Erck)

/s/ Nancy Hutson (Nancy Hutson, Ph.D.)	Director
/s/ Robert A. Ingram (Robert A. Ingram)	Director
/s/ Kenneth B. Lee, Jr. (Kenneth B. Lee, Jr.)	Director
/s/ Sanj K. Patel (Sanj K. Patel)	Director