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

FORM 10-Q

Quarterly Report Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

For the quarterly period ended March 31, 2015

Commission File Number 000-23186

BIOCRYST PHARMACEUTICALS, INC.
(Exact name of registrant as specified in its charter)

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**	
(Address of principal executive offices)	**27703** **(Zip Code)**

(919) 859-1302
(Registrant's telephone number, including area code)

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

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

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

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

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

The number of shares of Common Stock, par value $0.01, of the Registrant outstanding as of April 30, 2015 was 72,520,545.

BIOCRYST PHARMACEUTICALS, INC.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

BIOCRYST PHARMACEUTICALS, INC.
CONSOLIDATED BALANCE SHEETS
March 31, 2015 and December 31, 2014
(In thousands, except per share data)

	2015 (Unaudited)	2014 (Note 1)
Assets		
Cash and cash equivalents	$ 48,367	$ 54,540
Restricted cash	2,637	150
Investments	19,160	18,232
Receivables from collaborations	5,594	3,849
Receivables from product sales	—	5,641
Inventory	1,210	683
Prepaid expenses and other current assets	4,322	6,172
Deferred collaboration expense	76	76
Total current assets	81,366	89,343
Investments	41,116	41,116
Furniture and equipment, net	727	207
Deferred collaboration expense	163	177
Other assets	6,495	6,031
Total assets	$ 129,867	$ 136,874
Liabilities and Stockholders' Equity		
Accounts payable	$ 5,307	$ 2,849
Accrued expenses	12,291	11,329
Interest payable	7,241	6,029
Deferred collaboration revenue	1,490	1,481
Deferred product sales revenue	5,533	5,605
Non-recourse notes payable	30,000	30,000
Total current liabilities	61,862	57,293
Deferred collaboration revenue	3,256	3,552
Deferred rent	378	394
Stockholders' equity:		
Preferred stock, $0.001 par value; shares authorized — 5,000; no shares issued and outstanding	—	—
Common stock, $0.01 par value: shares authorized — 200,000; shares issued and outstanding — 72,474 in 2015 and 71,955 in 2014	725	720
Additional paid-in capital	546,698	542,943
Accumulated other comprehensive income (loss)	10	(130)
Accumulated deficit	(483,062)	(467,898)
Total stockholders' equity	64,371	75,635
Total liabilities and stockholders' equity	$ 129,867	$ 136,874

See accompanying notes to consolidated financial statements.

BIOCRYST PHARMACEUTICALS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
Three Months Ended March 31, 2015 and 2014
(In thousands, except per share data-Unaudited)

	2015	2014
Revenues		
Product sales, net	$ 537	$ —
Royalty revenue	1,518	1,821
Collaborative and other research and development	4,771	1,637
Total revenues	6,826	3,458
Expenses		
Cost of products sold	15	—
Research and development	17,120	9,183
General and administrative	4,061	1,588
Royalty	60	73
Total operating expenses	21,256	10,844
Loss from operations	(14,430)	(7,386)
Interest and other income	117	17
Interest expense	(1,315)	(1,242)
Gain (loss) on foreign currency derivative	464	(1,526)
Net loss	$ (15,164)	$ (10,137)
Basic and diluted net loss per common share	**$ (0.21)**	**$ (0.17)**
Weighted average shares outstanding	**72,341**	**59,589**
Unrealized gain (loss) on available for sale investments	140	(2)
Comprehensive loss	$ (15,024)	$ (10,139)

See accompanying notes to consolidated financial statements.

BIOCRYST PHARMACEUTICALS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
Three Months Ended March 31, 2015 and 2014
(In thousands-Unaudited)

	2015	2014
Operating activities		
Net loss	$ (15,164)	$ (10,137)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	45	53
Stock-based compensation expense	2,259	1,610
Amortization of debt issuance costs	110	110
Change in fair value of foreign currency derivative	(464)	1,526
Changes in operating assets and liabilities:		
Receivables	3,896	(1,165)
Inventory	(527)	—
Prepaid expenses and other assets	1,848	892
Deferred collaboration expense	14	15
Accounts payable and accrued expenses	3,404	(2,252)
Interest payable	1,212	685
Deferred revenue	(359)	(296)
Net cash used in operating activities	**(3,726)**	**(8,959)**
Investing activities		
Acquisitions of furniture and equipment	(565)	(7)
Change in restricted cash	(2,487)	1
Purchases of investments	(3,378)	(9,367)
Sales and maturities of investments	2,482	8,350
Net cash used in investing activities	**(3,948)**	**(1,023)**
Financing activities		
Sale of common stock, net	1,175	—
Exercise of stock options	155	3,804
Employee stock purchase plan sales	171	128
Payment of foreign currency derivative collateral	—	(1,530)
Net cash provided by financing activities	**1,501**	**2,402**
Decrease in cash and cash equivalents	**(6,173)**	**(7,580)**
Cash and cash equivalents at beginning of period	54,540	21,164
Cash and cash equivalents at end of period	**$ 48,367**	**$ 13,584**

See accompanying notes to consolidated financial statements.

Note 1 — Significant Accounting Policies

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 the treatment of rare diseases in which significant unmet medical needs exist and 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.

Based on its current operating plans, the Company expects it has sufficient liquidity, with its existing cash and investments of $111,280, to continue its planned operations through the middle of 2016. The Company's 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 in the future. In order to continue its operations substantially beyond the middle of 2016 it will need to: (1) successfully secure or increase U.S. Government funding of its programs, including procurement contracts; (2) out-license rights to certain of its products or product candidates, pursuant to which the Company would receive cash milestones; (3) raise additional capital through equity or debt financings or from other sources; (4) obtain product candidate regulatory approvals, which would generate revenue and cash flow; (5) reduce spending on one or more research and development programs; and/or (6) restructure operations. The Company retains the ability to offer for sale approximately $150,000 of securities, including common stock, preferred stock, debt securities, depositary shares and warrants from its effective shelf S-3 registration statement, which it filed with the Securities and Exchange Commission on March 3, 2015. Additionally, the Company retains the ability to offer for sale approximately $10,000 of securities, including common stock, preferred stock, debt securities, depositary shares and warrants from its effective shelf S-3 registration statement, which it filed with the Securities and Exchange Commission on November 6, 2013. The Company will continue to incur operating losses and negative cash flows until revenues reach a level sufficient to support ongoing operations.

Basis of Presentation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary, JPR Royalty Sub LLC ("Royalty Sub"). Royalty Sub was formed in connection with a $30,000 financing transaction the Company completed on March 9, 2011. See Note 4, Royalty Monetization, 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") for interim financial reporting and the instructions to Form 10-Q and do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. Such 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.

These financial statements should be read in conjunction with the financial statements for the year ended December 31, 2014 and the notes thereto included in the Company's 2014 Annual Report on Form 10-K. Interim operating results are not necessarily indicative of operating results for the full year. The balance sheet as of December 31, 2014 has been derived from the audited consolidated financial statements included in the Company's most recent Annual Report on Form 10-K.

Reclassifications

Certain balance sheet amounts as of December 31, 2014 have been reclassified to conform to the 2015 presentation.

Cash and Cash Equivalents

The Company generally considers cash equivalents to be all cash held in commercial checking accounts, 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 March 31, 2015 reflects $150 the Company is required to maintain in an interest bearing certificate of deposit to serve as collateral for a corporate credit card program, $1,087 in royalty revenue paid by Shionogi & Co., Ltd. (“Shionogi”) designated for interest on the PhaRMA Notes (defined in Note 4) and $1,400 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.

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 March 31, 2015, the Company believes that the costs of its investments are recoverable in all material respects.

The following tables summarize the fair value of the Company’s investments by type. The estimated fair value 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.

	March 31, 2015				
	Amortized Cost	Accrued Interest	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Obligations of U.S. Government and its agencies	$ 20,302	$ 42	$ 3	$ (2)	$ 20,345
Corporate debt securities	28,139	144	27	(13)	28,297
Certificates of deposit	11,625	15	6	(12)	11,634
Total investments	$ 60,066	$ 201	$ 36	$ (27)	$ 60,276

	December 31, 2014				
	Amortized Cost	Accrued Interest	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Obligations of U.S. Government and its agencies	$ 20,307	$ 22	$ —	$ (23)	$ 23,306
Corporate debt securities	27,152	151	5	(47)	27,261
Certificates of deposit	11,838	6	—	(63)	11,781
Total investments	$ 59,297	$ 179	$ 5	$ (133)	$ 59,348

The following table summarizes the scheduled maturity for the Company's investments at March 31, 2015 and December 31, 2014.

	2015	2014
Maturing in one year or less	$ 19,160	$ 18,232
Maturing after one year through two years	29,656	25,459
Maturing after two years	11,460	15,657
Total investments	$ 60,276	$ 59,348

Receivables 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 or royalty receivables from Shionogi & Co. Ltd. These receivables are evaluated to determine if any reserve or allowance should be established at each reporting date. At March 31, 2015 and December 31, 2014, the Company had the following receivables.

	March 31, 2015		
	Billed	Unbilled	Total
U.S. Department of Health and Human Services	$ —	$ 4,087	$ 4,087
Shionogi & Co. Ltd.	1,507	—	1,507
Total receivables	$ 1,507	$ 4,087	$ 5,594

	December 31, 2014		
	Billed	Unbilled	Total
U.S. Department of Health and Human Services	$ —	$ 2,778	$ 2,778
Shionogi & Co. Ltd.	1,071	—	1,071
Total receivables	$ 1,071	$ 2,778	$ 3,849

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 March 31, 2015 and December 31, 2014, the Company's inventory consisted of RAPIVAB finished goods inventory and work in process. Inventory is stated at the lower of cost, 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.

During 2014, in connection with the FDA approval of RAPIVAB, the Company began capitalizing costs associated with the production of RAPIVAB inventories.

The Company's inventory consisted of the following at March 31, 2015 and December 31, 2014:

	2015	2014
Work in process	$ —	$ 267
Finished Goods	1,210	416
Net inventories	$ 1,210	$ 683

Patents and Licenses

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

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 our 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 March 31, 2015 and December 31, 2014, the carrying value of accrued expenses approximates their fair value due to their short-term settlement.

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.

Accumulated Other Comprehensive (Loss) Income

Accumulated other comprehensive (loss) income is comprised of unrealized gains and losses on investments available-for-sale and is disclosed as a separate component of stockholders' equity. Amounts reclassified from accumulated other comprehensive (loss) income are recorded as interest and other income on the Consolidated Statements of Comprehensive Loss. During the three months ended March 31, 2015, realized gains of $8 were reclassified out of accumulated other comprehensive (loss) income. No reclassifications out of accumulated other comprehensive (loss) income were recorded during the three months ended March 31, 2014.

Revenue Recognition

The Company recognizes revenues from collaborative and other research and development arrangements 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.

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. In the event a license agreement contains multiple deliverables, the Company evaluates 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, the Company receives royalty payments based upon our licensees' net sales of covered products. The Company recognizes royalty revenues when it can reliably estimate such amounts and collectability is reasonably assured.

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. Event payments are recognized as revenue upon the achievement of specified events if (1) the event is substantive in nature and the achievement of the event was not reasonably assured at the inception of the agreement and (2) the fees are non-refundable and non-creditable. Any event payments received prior to satisfying these criteria are recorded as deferred revenue. 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 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, the Company sells RAPIVAB to specialty distributors, who in turn, sell to physician offices, hospitals and federal, state and commercial health care organizations.

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 requires 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.

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.

Advertising

The Company engages in very limited distribution and direct-response advertising when promoting RAPIVAB.

The Company recorded the following revenues for the three months ended March 31, 2015 and 2014:

	2015	2014
Product sales, net	$ 537	$ —
Royalty revenue	1,518	1,821
Collaborative and other research and development revenues:		
U.S. Department of Health and Human Services	4,475	1,341
Shionogi (Japan)	296	296
Total collaborative and other research and development revenues	4,771	1,637
Total revenues	$ 6,826	$ 3,458

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 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 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" has occurred.

Interest Expense and Deferred Financing Costs

Interest expense for the three months ended March 31, 2015 and 2014 was $1,315 and $1,242, respectively, and relates to the issuance of the PhaRMA Notes (defined in Note 4). Costs directly associated with the issuance of the PhaRMA Notes have been capitalized and are included in other current assets on the Consolidated Balance Sheets. These costs are being amortized to interest expense over the term of the PhaRMA Notes using the effective interest rate method. Amortization of deferred financing costs included in interest expense was $110 for each of the three months ended March 31, 2015 and 2014.

Currency Hedge Agreement

In connection with the issuance by Royalty Sub of the PhaRMA Notes, the Company entered into a Currency Hedge Agreement (defined in Note 4) 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 three months ended March 31, 2015 and 2014 resulted in a gain of $464 and a loss of $1,526, respectively. Mark-to-market adjustments are determined by a third party pricing model that 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. The Company is also required to post collateral in connection with the mark-to-market adjustments based on thresholds defined in the Currency Hedge Agreement. As of March 31, 2015 and December 31, 2014, no hedge collateral was posted under the 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 three months ended March 31, 2015 and 2014 does not include 3,458 and 5,206, respectively, of such 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

The Company relies 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 to date 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 negatively impact the commercialization of RAPIVAB.

The Company's primary source of revenue that has an underlying cash flow stream is the reimbursement of peramivir and BCX4430 development expenses, which was earned under cost-plus-fixed-fee contracts with BARDA/HHS and NIAID/HHS, respectively. The Company relies on BARDA/HHS and NIAID/HHS to reimburse predominantly all of the development costs for its peramivir and BCX4430 programs. Accordingly, reimbursement of these expenses represents a significant portion of the Company's collaborative and other research and development revenues. The completion, as with the June 30, 2014 BARDA/HHS peramivir development contract, or termination of the NIAID/HHS and BARDA/HHS BCX4430 programs/collaboration could negatively impact the Company's future Consolidated Statements of Comprehensive Loss and Cash Flows. In addition, the Company also recognizes royalty revenue from the net sales of RAPIACTA; however, the underlying cash flow from these royalty payments 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. 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 API and finished product manufacturing of RAPIVAB. Additionally, the Company relies upon a single third party to provide warehousing and distribution services for RAPIVAB. Delays in the manufacture or distribution of any product could adversely impact the commercial revenue and future procurement stockpiling of RAPIVAB.

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 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.

Recent Accounting Pronouncements

In April 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2015-03, *Simplifying the Presentation of Debt Issuance Costs*. This standard amends existing guidance to require the presentation of debt issuance costs in the balance sheet as a deduction from the carrying amount of the related debt liability instead of a deferred charge. It is effective for annual reporting periods beginning after December 15, 2015. Early adoption is permitted. The Company does not expect this ASU will have a material impact on its consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09 – *Revenue from Contracts with Customers* , 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. This ASU 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. This ASU is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2016. Early adoption is not permitted and companies can transition to the new standard under the full retrospective method or the modified retrospective method. The Company is currently evaluating the impact this ASU will have on its consolidated financial statements.

Note 2 — Stock-Based Compensation

As of March 31, 2015, the Company had two stock-based employee compensation plans, the Stock Incentive Plan ("Incentive Plan") and the Employee Stock Purchase Plan ("ESPP"), both which were amended and restated in March 2014 and approved by the Company's stockholders in May 2014. Stock-based compensation expense of $2,259 ($2,165 of expense related to the Incentive Plan and $94 of expense related to the ESPP) was recognized during the first three months of 2015, while $1,610 ($1,558 of expense related to the Incentive Plan and $52 of expense related to the ESPP) was recognized during the first three months of 2014.

There was approximately $14,621 of total unrecognized compensation cost related to non-vested stock option awards and restricted stock unit awards granted by the Company as of March 31, 2015. That cost is expected to be recognized as follows: $4,006 during the remainder of 2015, $4,528 in 2016, $4,064 in 2017, $1,990 in 2018 and $33 in 2019. In addition, the Company has outstanding performance-based stock options for which no compensation expense is recognized until "performance" has occurred and the award vests. At the time of vesting, compensation expense will be recognized.

Stock Incentive Plan

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 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 March 31, 2015, 50% of the August 2013 grants have vested based upon achievement of two milestones: (1) successful completion of the OPuS-1 clinical trial for which vesting occurred in the second quarter of 2014, and (2) FDA approval of RAPIVAB for which vesting occurred in the fourth quarter of 2014. Thus, as of March 31, 2015, 50% of the August 2013 performance-based grants and 100% 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.

Related activity under the Incentive Plan is as follows:

	Awards Available	Options Outstanding	Weighted Average Exercise Price
Balance December 31, 2014	2,362	9,605	$ 6.21
Restricted stock unit awards granted	(133)	—	—
Restricted stock unit awards cancelled	1	—	—
Stock option awards granted	(917)	917	11.83
Stock option awards exercised	—	(240)	3.07
Stock option awards cancelled	28	(28)	9.05
Balance March 31, 2015	1,341	10,254	$ 6.78

For stock option awards granted under the Incentive Plan during the first three months of 2015 and 2014, 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 per share of the awards granted during the first three months of 2015 and 2014 was $8.11 and $8.28, 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 table summarizes the key assumptions used by the Company to value the stock option awards granted during the first three months of 2015 and 2014. 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 historical volatility on the Company's publicly traded common stock. The Company has assumed no expected dividend yield, as dividends have never been paid to stock or option holders and will not be paid 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 to Employees and Directors under the Incentive Plan

	2015	2014
Expected Life in Years	5.5	5.5
Expected Volatility	83%	87%
Expected Dividend Yield	0.0%	0.0%
Risk-Free Interest Rate	1.5%	1.6%

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 519 shares remain available for purchase at March 31, 2015. 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. The Company issued 20 shares during the first three months of 2015 under the ESPP. 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.

Note 3 — Collaborative and Other Research and Development Contracts

U.S. Department of Health and Human Services ("BARDA/HHS"). In January 2007, BARDA/HHS awarded the Company a $102,661, 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 $77,191. On February 24, 2011, the Company announced that BARDA/HHS had awarded it a $55,000 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 $234,852 and provided funding to support the filing of a NDA to seek regulatory approval for i.v. peramivir in the U.S. In December 2013, BioCryst submitted an NDA filing for i.v. peramivir to the FDA and the NDA was approved in December 2014. The BARDA/HHS contract expired on June 30, 2014 according to its terms.

On March 31, 2015, we announced that the Biomedical Research and Development Authority within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response ("ASPR") awarded BioCryst a contract for the continued development of BCX4430 as a potential treatment for diseases caused by RNA pathogens, including filoviruses. This BARDA/HHS contract includes a base contract of $12,134 to support BCX4430 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 $34,989.

National Institute of Allergy and Infectious Diseases ("NIAID/HHS"). In September 2013, NIAID/HHS contracted with the Company for the development of BCX4430 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 total funding under this contract as of March 31, 2015 could be up to $29,147, if all contract options are exercised by NIAID/HHS, over a five year period. The goals of this contract, including amendments, are to file IND applications for intravenous i.v. and i.m. BCX4430 for the treatment of Marburg virus disease, to conduct an initial Phase 1 human clinical trial and to study BCX4430 as a treatment for Ebola virus disease. As of March 31, 2015, a total of $25,021 has been awarded under exercised options within the contract. BCX4430 is the lead compound in the Company's BSAV research program.

The contracts with BARDA/HHS and NIAID/HHS are cost-plus-fixed-fee contracts. That is, the Company is entitled to receive reimbursement for all costs incurred in accordance with the contracts provisions that are related to the development of peramivir and BCX4430 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.

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 and to provide rights for Shionogi to perform a Phase 3 clinical trial in Hong Kong. Shionogi has commercially launched peramivir under the commercial name RAPIACTA in Japan.

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 forodesine, a Purine Nucleoside Phosphorylase ("PNP") inhibitor, for use in oncology (the "Original Agreement"). Under the terms of the license agreement, as amended, Mundipharma obtained worldwide rights to forodesine.

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 BCX4430 to BioCryst for any antiviral use.

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 ("CIRL"), 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 are in the process of being transferred to VUW or its wholly owned subsidiaries, including the contracts to which BioCryst is a party. Except for a substitution of parties, the terms and conditions of the contracts are expected to remain unchanged.

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 and Green Cross agreements, or commercializes products related to these programs, the Company will owe sublicense fees or royalties on amounts it receives.

Note 4 — 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, if approved for commercial sale, 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.

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 "Payment Date"). 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.

On September 1, 2014, Royalty Sub was unable to pay the full amount of interest payable to avoid an event of default. Accordingly, the PhaRMA Notes and related accrued interest have been classified as current liabilities on the 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, 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.

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 March 31, 2015, 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 2015 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.

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 for the three months ended March 31, 2015 and 2014 resulted in a gain of $464 and a loss of $1,526, respectively. The Company is also required to post collateral in connection with the mark-to-market adjustments based on defined thresholds. As of March 31, 2015 and December 31, 2014, 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 March 31, 2015, the maximum amount of hedge collateral the Company may be required to post is $11.7 million.

Note 5 — Stockholders' Equity

On March 3, 2015, the Company filed a $150,000 shelf registration statement on Form S-3 with the SEC. This shelf registration statement became effective upon filing 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.

On November 6, 2013, the Company filed a $125,000 shelf registration statement on Form S-3 with the SEC. This shelf registration statement was declared effective in November 2013 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. The Company has $10,000 remaining under this shelf registration.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

This Quarterly Report on Form 10-Q contains 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 the Company with the Securities and Exchange Commission, including the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. See "Information Regarding Forward-Looking Statements."

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 products and 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, ongoing discussions with government agencies regarding future RAPIVAB and/or BCX4430 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 the treatment of rare diseases in which significant unmet medical needs exist and 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

RAPIVAB (peramivir injection)

RAPIVAB was approved by the FDA on December 19, 2014 for the treatment of acute uncomplicated influenza in adult patients who have been symptomatic for no more than two days. We have elected the "Sell-Through" revenue recognition methodology and recognized approximately $537,000 of RAPIVAB product sales in the first quarter of 2015. With the approval and commercial availability of RAPIVAB, we have moved our focus to obtaining a stock-piling procurement contract with the U.S. Government to realize the strategic value of this program.

HAE Program

BCX4161

On December 18, 2014, we announced the dosing of the first patient in OPuS-2 (Oral ProphylaxiS-2), a blinded, randomized, placebo-controlled clinical trial of orally-administered BCX4161 in patients with HAE. OPuS-2 is a 12-week, three-arm, parallel cohort design trial to evaluate the efficacy and safety of two doses of BCX4161, 300 mg and 500 mg, administered three-times daily compared with placebo. This trial is being conducted in the U.S. as well as other countries and is expected to enroll approximately 100 HAE patients. The primary efficacy endpoint for the trial is the mean angioedema attack rate for each BCX4161 dose group compared to placebo. BCX4161 has Orphan Drug designation in the U.S. and Europe and has Fast Track designation for the treatment of HAE in the U.S.

BCX7353 and other 2nd generation HAE compounds

In January 2015, we selected BCX7353, one of two advanced stage, preclinical, optimized, plasma kallikrein inhibitors, to advance into Phase 1 development as a once-daily, oral prophylactic HAE treatment. BXC7353 is structurally different from BCX4161, but has a similar mechanism of action targeting plasma kallikrein. BCX7353 has completed all toxicology requirements necessary for testing in healthy human volunteers and we expect it to enter Phase 1 clinical development in the second quarter of 2015. In addition to BCX7353, we continue to work on multiple other second generation molecules that are at an earlier stage of preclinical development.

BCX4430

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 BCX4430 in healthy volunteers. The main goals of this first-in-human study are to evaluate the safety, tolerability and pharmacokinetics of escalating doses of BCX4430 administered via i.m. injection in healthy subjects.

On December 23, 2014, we announced results from a successful proof-of-concept study of BCX4430 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 BCX4430 treatment on survival through Day 41 in animals infected with Ebola virus. Dosing of placebo or BCX4430 by i.m. injection was initiated 30-120 minutes after virus challenge and continued twice a day for 14 days. The overall survival rate for BCX4430 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 macaques study was conducted following the completion, in November 2014, of a dose-ranging study of BCX4430 for the treatment of cynomolgus macaques infected with Ebola virus. The cynomolgus macaques study was designed to evaluate whether BCX4430 showed a meaningful benefit for survival in Ebola virus NHP disease models. In this study, BCX4430 demonstrated a statistically significant prolongation of survival for the animals at the highest dose regimen tested, but no animals survived beyond 21 days.

On February 12, 2015, NIAID/HHS exercised an additional option under our BCX4430 development contract which provides an additional $2.7 million to us for i.v. development and submission of an IND. Exercise of this option yields $25.0 million of obligated option funding under the $29.1 million contact.

In March 2015, the Biomedical Advanced Research and Development Authority ("BARDA/HHS") within the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response ("ASPR") awarded BioCryst a contract for the continued development of BCX4430 as a potential treatment for diseases caused by RNA pathogens, including filoviruses. This BARDA/HHS contract includes a base contract of $12.1 million to support BCX4430 drug manufacturing as well as $22.9 million in additional development options that can be exercised, bringing the potential value of the contract to $35.0 million.

Results of Operations (three months ended March 31, 2015 compared to the three months ended March 31, 2014)

For the three months ended March 31, 2015, total revenues were $6.8 million as compared to $3.5 million for the three months ended March 31, 2014. Revenues in the first quarter of 2015 included $1.5 million of royalty revenue from Shionogi and Green Cross associated with sales of peramivir in Japan and Korea, $4.5 million of reimbursement of collaborative expenses from NIAID/HHS and BARDA/HHS related to the development of BCX4430 and i.v. peramivir and $0.3 million associated with collaborative revenue amortization from other corporate partnerships. In addition, we recorded approximately $0.5 million of RAPIVAB revenue under the "Sell-Through" revenue recognition methodology. The increase in revenue in the first quarter of 2015, as compared to 2014, resulted primarily from higher collaborative revenue associated with BCX4430 under NIAID/HHS and BARDA/HHS contracts. Revenues in the first quarter of 2014 included $1.8 million of royalty revenue from Shionogi and Green Cross associated with sales of peramivir in Japan and Korea, $1.3 million of reimbursement of collaborative expenses from NIAID/HHS and BARDA/HHS related to the development of BCX4430 and i.v. peramivir and $0.3 million associated with collaborative revenue amortization from other corporate partnerships.

Research and development ("R&D") expenses increased to $17.1 million for the first quarter of 2015 from $9.2 million in 2014. The increase in 2015 R&D expenses, as compared to 2014, reflect increased spending on our HAE program, and to a lesser extent, our BCX4430 program.

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

	Three Months Ended March 31,	
	2015	**2014**
R&D expenses by program:		
BCX4161	$ 6,246	$ 4,335
BCX4430	2,674	1,750
2nd generation HAE compounds	5,881	1,360
Peramivir	1,146	695
Other research, preclinical and development costs	1,173	1,043
Total R&D expenses	$ 17,120	$ 9,183

General and administrative expenses increased to $4.1 million for the first quarter of 2015 as compared to $1.6 million in 2014. The increase of $2.5 million is primarily due to RAPIVAB administrative, distribution and marketing expenses as well as unrestricted grants awarded to the U.S. and International HAE patient advocacy groups. Although we do not have plans to incur substantial commercial expenses to promote RAPIVAB in the U.S. in the future, we do expect our G&A expenses to be higher than in previous quarters associated with RAPIVAB distribution expenses and other increases in administrative expenses associated with corporate growth in preparation for future NDA and other regulatory filings and for product commercialization. Marketing and distribution expenses for RAPIVAB will likely be seasonal, occurring in advance of and during the influenza season.

Interest expense related to the non-recourse notes issued in conjunction with the non-dilutive peramivir royalty monetization transaction in March 2011 was $1.3 million in the first quarter of 2015, compared to $1.2 million in the first quarter of 2014. In addition, a mark-to-market gain of $0.5 million was recognized in the first quarter of 2015 related to our foreign currency hedge, compared to a mark-to-market loss of $1.5 million in the same quarter in the prior year, both resulting from changes in the U.S. dollar/Japanese yen exchange rate in the related time periods.

Liquidity and Capital Resources

Cash expenditures have exceeded revenues since our inception and we expect our 2015 operating expenses to exceed our 2015 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 peramivir and BCX4430; and to a lesser extent, the PhaRMA Notes financing. To date, we have been awarded a BARDA/HHS peramivir development contract totaling $234.8 million, which expired on June 30, 2014, a NIAID/HHS BCX4430 development contract totaling $29.1 million, which is ongoing, and a BARDA/HHS BCX4430 development contract totaling $35.0 million. The total amount of NIAID/HHS and BARDA/HHS funding obligated under awarded options in the active contracts is $25.0 million and $12.1 million, respectively. Most recently, we completed a successful public offering in June 2014 of 11.5 million shares of common stock at a price of $10.00 per share following the release of our OPuS-1 clinical trial results, which provided net proceeds to us of approximately $107.8 million. This financing provides us liquidity through the middle of 2016. We retain the ability to offer for sale approximately $160.0 million of securities, including common stock, preferred stock, debt securities, depositary shares and warrants from effective shelf registration statements, which we filed with the Securities and Exchange Commission. 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 March 31, 2015, we had net working capital of $19.5 million, a decrease of approximately $12.6 million from $32.1 million at December 31, 2014. The decrease in working capital was principally due to our normal operating expenses associated with the development of our product candidates. Our principal sources of liquidity at March 31, 2015 were approximately $48.4 million in cash and cash equivalents; approximately $60.3 million in investments considered available-for-sale; and approximately $5.6 million in U.S. Government receivables. We anticipate our cash and investments will fund our operations through the middle of fiscal 2016.

We intend to contain costs and reduce 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, primarily related to our clinical trial activity. 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 extended or executed additional lease obligations in 2015 for our Birmingham, Alabama operations, which increases the obligation by $5.6 million and extends these new obligations through 2026. These operating lease obligations encompass future rental obligations of our Birmingham operating facilities.

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 peramivir and BCX4430, 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 March 31, 2015, we believe these resources will be sufficient to fund our operations through the middle of fiscal 2016. 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 in the future. In order to continue our operations substantially beyond the middle of fiscal 2016, we will need to: (1) successfully secure or increase U.S. Government funding of our programs, including procurement contracts; (2) out-license rights to certain of our products or product candidates, pursuant to which we would receive cash milestones; (3) raise additional capital through equity or debt financings or from other sources; (4) obtain product candidate regulatory approvals, which would generate revenue and cash flow; (5) reduce spending on one or more research and development programs; and/or (6) restructure operations. We retain the ability to offer for sale approximately $160.0 million of securities, including common stock, preferred stock, debt securities, depositary shares and warrants from our effective shelf S-3 registration statements.

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.

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 near 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 peramivir and BCX4430 expenses and any future decisions regarding the future of the peramivir and BCX4430 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.

Financial Outlook for 2015

Based upon our development plans, expected operations and our awarded government contracts, we expect 2015 operating cash usage to be in the range of $65 to $80 million, and expect our total 2015 operating expenses to be in the range of $75 to $95 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 March 31, 2015, we do not have any unconsolidated entities or off-balance sheet arrangements.

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 our 2014 Annual Report on Form 10-K for the year ended December 31, 2014, 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 RAPIVAB 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 in December 2014, the Company began capitalizing costs associated with the production of RAPIVAB commercial 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 clinical research organizations 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.

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. Event payments are recognized as revenue upon the achievement of specified events if (1) the event is substantive in nature and the achievement of the event was not reasonably assured at the inception of the agreement and (2) the fees are non-refundable and non-creditable. Any event payments received prior to satisfying these criteria are recorded as deferred revenue. 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, we sell RAPIVAB to specialty distributors, who, in turn, sell to physician offices, hospitals and federal, state and commercial health care organizations.

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.

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 requires 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, 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 bonafide 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 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 our clinical and preclinical candidates as well as 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 2015 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 Agreements. In establishing the hedge, we provided initial funds of approximately $2.0 million to support our potential hedge obligations. As of March 31, 2015, the maximum amount of hedge collateral we may be required to post is $11.7 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. Cumulative mark-to-market adjustments for the three months ended March 31, 2015 resulted in a $0.5 million gain. 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. The Company is also required to post collateral in connection with the mark-to-market adjustments based on defined thresholds. As of March 31, 2015, no collateral was posted under the agreement.

Tax

We account for uncertain tax positions in accordance with accounting principles generally accepted in the U.S. 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.

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," "estimates," "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:

- the initiation, timing, progress and results of our preclinical testing, clinical trials, and other research and development efforts;
- the potential funding from our contracts with BARDA/HHS for the development and support of the NDA filing for RAPIVAB and the potential funding from our contracts with NIAID/HHS and BARDA/HHS for the development of BCX4430;
- the potential for a government stockpiling order or profit from commercial sales of RAPIVAB;
- the potential use of RAPIVAB as a treatment for H1N1, H5N1, and H7N9 or other strains of influenza;

- the further preclinical or clinical development and commercialization of our product candidates, including our HAE program, RAPIVAB, BCX4430, early stage discovery programs, forodesine, and other PNP inhibitor development programs;
- the implementation of our business model, strategic plans for our business, product candidates and technology;
- our ability to establish and maintain collaborations or out-license rights to our drug candidates;
- plans, programs, progress and potential success of our collaborations, including Mundipharma for forodesine 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, and our ability to benefit from our equity interest in Royalty Sub;
- the foreign 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 and our needs for additional financing;
- the timing or likelihood of regulatory filings and approvals;
- our ability to raise additional capital to fund our operations;
- 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 3. 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 PhaRMA Notes.

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 drop in interest rates along the entire interest rate yield curve would not significantly affect the fair value of our interest sensitive financial instruments. 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 operating subsidiaries or 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 2015 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.

Item 4. 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 Exchange Act is recorded, processed, summarized and reported in a timely manner under the Exchange Act. We carried out an evaluation, 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. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of March 31, 2015, the Company’s disclosure controls and procedures are effective to ensure that information required to be disclosed by the Company in the reports filed or submitted by it under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and include controls and procedures designed to ensure that information required to be disclosed by the Company in such reports is accumulated and communicated to the Company’s management, including the Chief Executive Officer and Chief Financial Officer of the Company, as appropriate to allow timely decisions regarding required disclosure.

There have been no changes in our internal control over financial reporting that occurred during the quarter ended March 31, 2015 that have materially affected, or are reasonably likely to materially affect, the Company’s internal control over financial reporting.

PART II. OTHER INFORMATION

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 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 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 is 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 a reasonable commercial potential. We may suffer significant setbacks in pivotal pre-clinical studies and clinical trials (e.g. BCX4430, BCX4161 and our second generation HAE product candidates), even after earlier clinical trials show promising results. 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. These side effects could cause us or regulatory authorities to interrupt, delay or halt clinical trials of a product candidate. These side effects could also result in the FDA or foreign regulatory authorities refusing to approve the product candidate for any targeted indications. 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 availability of and willingness of patients to participate in our clinical trials;
- 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;
- manufacturing or quality control problems could affect the supply of product candidates for our trials; and
- delays or changes in requirements by governmental 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 in our planned clinical trials for HAE, 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.

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 either of these in any of our programs, including BCX4161 and our second generation HAE 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 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, 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, pre-clinical and clinical trials plus the related development, manufacturing, regulatory approval process requirements, and 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 BCX4430 or from other new partnerships with third parties for the development of our product candidates, including BCX4161 and our second generation HAE product candidates; the amount or profitability of any orders for RAPIVAB (peramivir injection) or BCX4430 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 BCX4161, BCX7353 and our other second generation HAE 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 enter into one or more acceptable partnership arrangements in order to complete the development of ulodesine for the treatment of gout.

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 or collaborative or other arrangements with corporate partners or from other sources, 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. 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 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 peramivir, the progress, timeline and ultimate outcome of the OPuS-2 clinical trial, progress of our second generation HAE compounds, funding for and continued successful development of BCX4430, and 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 stock and credit markets, which 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.

If BARDA/HHS or NIAID/HHS were to eliminate, reduce or delay funding from our contracts, this would 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 BCX4430 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.

Further, BARDA/HHS and NIAID/HHS may challenge actions that we have taken or may take under our contracts with them, which could negatively impact our operating results and cash flows.

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. U.S. Government contracts typically contain extraordinary provisions that would not typically be found in commercial contracts. For instance, government contracts permit unilateral modification by the government, interpretation of relevant regulations (i.e., federal acquisition regulation clauses), and the ability to terminate without cause. In addition, U.S. Government contracts are subject to an in-process review, where the U.S. Government will review the project and its options under the contract. As such, we may be at a disadvantage as compared to other commercial contracts. U.S. Government contracts are subject to audit and modification by the government at its sole discretion. 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 recently completed work under a contract with BARDA/HHS for the development of our neuraminidase inhibitor, peramivir. We also have entered into contracts with BARDA/HHS and NIAID/HHS for the development of BCX4430 as a treatment for diseases caused by RNA pathogens, including Marburg virus disease and Ebola virus disease, respectively. 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 extraordinary provisions that would not typically be found in commercial contracts. For instance, government contracts permit unilateral modification by the government, interpretation of relevant regulations (i.e., federal acquisition regulation clauses), and the ability to terminate without cause. In addition, U.S. Government contracts are subject to the in-process review described above. As such, we may be at a disadvantage as compared to competitors that do not rely on U.S. Government contracts.

U.S. Government contracts typically contain unfavorable termination provisions and are subject to audit and modification by the government at its sole discretion, each of which subjects us to additional risks. These risks include the ability of the U.S. Government to unilaterally:

- terminate or reduce the scope of our contract; and
- audit and object to our contract-related costs and fees, including allocated indirect costs.

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 conducted by the U.S. Government for the completed BARDA/HHS contract have been performed and concluded through fiscal 2009; all subsequent fiscal years are still open and auditable. Audits under the active BARDA/HHS and NIAID/HHS contracts may occur at the election of the U.S. Government. 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 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 alliances 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 forodesine and with each of Shionogi and Green Cross for the development and commercialization of peramivir, in Japan, Taiwan and South Korea. 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 clinical results, 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;
- our partners may not devote sufficient capital or resources towards our product candidates; and
- 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 products or technologies. We currently have limited marketing 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 are, or plan to, commercialize. In addition, our revenue from collaborative agreements may be dependent upon the status of our preclinical and clinical programs. If we fail to advance these programs to the point of being able to enter into successful collaborations, we will not receive any potential future event or other collaborative payments.

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

- we or our collaborators may fail to successfully complete clinical trials sufficient to obtain 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.

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 other 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 some 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; 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, and our business, financial condition and results of operations could be materially adversely affected.

Commercialization of RAPIVAB is subject to the potential commercialization risks described herein and numerous additional risks. Any potential revenue benefits to us are highly speculative.

Commercialization success of RAPIVAB 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 RAPIVAB is subject to further risks and commercialization may be negatively impacted by a number of factors, including, but not limited to, the following:

- RAPIVAB may not prove to be adequately safe and effective for market approval in markets other than the United States;
- necessary funding for post marketing commitments and further development of RAPIVAB 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 RAPIVAB;
- regulatory authorities may not make needed accommodations to accelerate the drug testing and approval process for RAPIVAB outside the United States;
- a limited number of governmental entities are expected to be the primary potential stockpiling customers for RAPIVAB and if we are not successful at marketing RAPIVAB 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 RAPIVAB;
- we may not be able to maintain sufficient and acceptable commercial manufacturing ourselves or through third-party manufacturers;
- the commercial demand and acceptance for RAPIVAB by healthcare providers and by patients may not be sufficient to result in substantial revenues of RAPIVAB;
- effectiveness of our marketing efforts, especially since we have no sales force for RAPIVAB and we have devoted limited resources to its commercialization;
- 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.

If any or all of these and other risk factors occur, we will not attain significant revenues or gross margins from RAPIVAB and our stock price and or cash flows may be adversely affected.

We are subject to various federal and state laws regulating the marketing of RAPIVAB and, if we do not comply with these regulations, we could face substantial penalties.

Our sales, promotion and other activities related to RAPIVAB, or any of our other products under development 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. We are subject to various federal and state laws pertaining to health care “fraud and abuse,” including both federal and state anti-kickback laws. Although we seek to comply with these statutes, it is possible that our practices, or those of our distributors, might be challenged under anti-kickback or similar laws. Violations of 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, 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 or insufficient interest by appropriate sites, investigators or study subjects. For example, as a condition of the approval of RAPIVAB, we are required to complete a pediatric patient study of RAPIVAB and to submit the final results of this clinical trial to the FDA. Depending on the outcome of this clinical trial, we may be unable to expand the indication for RAPIVAB or we may be required to include specific warnings or limitations on dosing this product, which could negatively impact our sales of RAPIVAB. 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, RAPIVAB, and any other future product candidates' approval, may contain requirements for costly post-marketing testing and surveillance to monitor its safety or efficacy.

Our advertising and promotion are subject to stringent FDA rules and oversight. In particular, the claims in our promotional materials and activities must be consistent with the FDA approvals for our products, and must be appropriately substantiated and fairly balanced with information on the safety risks and limitations of the products. We must review adverse event information concerning our products and 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. 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 consumer protection and unfair competition laws.

If our operations 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 are subject to new legislation, regulatory proposals and healthcare payor initiatives that may increase our costs of compliance and adversely affect our ability to market our products, obtain collaborators and raise capital.

In March 2010, the President signed the Patient Protection and Affordable Care Act, or PPACA, which makes extensive changes to the delivery of health care in the U.S. The PPACA includes numerous provisions that affect pharmaceutical companies, some of which became effective immediately and others of which will be taking effect over the next several years. For example, the PPACA seeks to expand health care coverage to the uninsured through private health insurance reforms and an expansion of Medicaid. The PPACA will also impose 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 will require reporting and public disclosure of payments and other transfers of value provided by pharmaceutical companies to physicians and teaching hospitals. We cannot predict what effect the PPACA or other healthcare reform initiatives that may be adopted in the future will have on our business. Further, it remains unclear whether there will be any changes made to provisions of the PPACA or other health care laws through acts of Congress in the future. 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 will also be required to report and disclose 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 proposed 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 fact 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.

Managed care organizations are increasingly challenging the prices charged for medical products and services and, in some cases, imposing restrictions on the coverage of particular drugs. Many managed care organizations 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 managed care organization'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 RAPIVAB.

Government use or sale of RAPIVAB in emergency situations, or otherwise, may result in the use of RAPIVAB which is outside of its approved use. To the extent that RAPIVAB is used as a treatment for influenza by any government entity, there can be no assurance that it will prove to be generally safe, well-tolerated and effective. Such government use of RAPIVAB may create certain liabilities for us. There is no assurance that we or our manufacturers will be able to fully meet the demand for RAPIVAB in the event of additional orders. Further, we may not achieve a favorable price for additional orders of RAPIVAB in the United States or in any other country. Our competitors may develop products that could compete with or replace RAPIVAB. 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 RAPIVAB will result in any order for RAPIVAB in those countries. There is no assurance that RAPIVAB 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 order by any non-U.S. partnership or commercialization of RAPIVAB in other countries will be substantial or will be profitable to us. The sale of RAPIVAB, emergency use or other use of RAPIVAB in any country may create certain liabilities for us.

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. If we cannot rely on 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 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 may encounter difficulties with meeting our requirements, especially for RAPIVAB and BCX4161, including but not limited to problems involving:

- inconsistent production yields;
- product liability claims;
- 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 RAPIVAB and planned studies for BCX4161, BCX7353 and BCX4430.

For example, our product manufacturer for RAPIVAB has been issued a Warning Letter and a Form 483 from the FDA. Failure to adequately address the observations made in the Form 483 and subsequent, timely satisfactory inspections and other necessary FDA processes may result in issues with future supply of RAPIVAB.

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 (including RAPIVAB), 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 at any time may also 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.

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 and 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.

Royalties and milestone payments from Shionogi under the Company's 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, if approved for commercial sale, Taiwan, (ii) rights to certain payments under a Japanese yen/U.S. dollar foreign currency hedge arrangement 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 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. Peramivir was first approved for marketing and manufacturing in Japan in October 2009 and has been offered for sale in Japan only since January 2010. As a result, there is limited sales history for peramivir in Japan, and there can be no assurance that peramivir will gain market acceptance in the Japanese market. In addition, Shionogi's sales of peramivir are expected to be highly seasonal and vary significantly from year to year, and the market for products to treat or prevent influenza is highly competitive. Under our license agreement with Shionogi, Shionogi has control over the commercial process for peramivir in Japan and Taiwan. 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.

Shionogi's failure to successfully market and commercialize peramivir in Japan would have a material adverse effect on Royalty Sub's ability to service its obligations on the PhaRMA Notes.

The successful commercialization of peramivir in Japan depends on the efforts of Shionogi and is beyond the control of us or Royalty Sub. Sales by Shionogi depend on many factors, including the incidence and severity of seasonal influenza in Japan each year (both of which can vary very significantly from year to year), the perceived and actual efficacy and safety of peramivir, the experience of physicians and patients with peramivir, continued market acceptance, continued availability of supply, competition, sales and marketing efforts, governmental regulation, and pricing and reimbursement in Japan. Shionogi is responsible for the marketing and sale of peramivir in Japan, including with respect to the pricing of peramivir in that market. There are no minimum royalties, sales levels or other performance measures required of Shionogi under the Shionogi Agreement and Shionogi could in its sole discretion reduce or cease its sale efforts of peramivir in Japan, subject to its covenant in the Shionogi Agreement to use diligent efforts to commercialize peramivir in Japan. If Shionogi is unable to, or fails to, successfully market and commercialize peramivir, it would have a material adverse effect on Royalty Sub's ability to service its obligations under the PhaRMA Notes and our ability to benefit from our equity interest in Royalty Sub. To date, Shionogi royalties have been insufficient for Royalty Sub to service annual interest obligations from the PhaRMA Notes and the PhaRMA Notes are in default.

We may be required to pay significant premiums under the foreign currency hedge arrangement 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 foreign currency hedge arrangement.

In connection with the issuance by Royalty Sub of the PhaRMA Notes, we entered into a foreign currency hedge arrangement 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, provided the foreign currency hedge arrangement remains in effect, 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 foreign currency hedge arrangement) 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. The Company is required to maintain a foreign currency hedge at 100 yen per dollar under the agreements governing the PhaRMA Notes.

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.

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 are working on. 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 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 and our partners are performing research on or developing products for the treatment of several disorders including HAE, recurrent/refractory peripheral T-cell lymphoma and broad spectrum antivirals which may be developed as medical countermeasures. We expect to encounter significant competition for any of the pharmaceutical products we 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 Eisai Co. Ltd.'s TARGRETIN® for cutaneous T-cell lymphoma and the current neuraminidase inhibitors marketed by GSK and Roche for influenza and CINRYZE® and FIRAZYR® for HAE, marketed by Shire Pharmaceuticals, Inc., and KALBITOR® for HAE, marketed by Dyax Corporation. Therapeutic products with potentially promising data to treat Ebola include Tekmira Pharmaceutical s Corporation's TKM-Ebola (RNAi interference based) and Mapp Biopharmaceutical, Inc.'s ZMapp (antibody-based) both of which have been used in Ebola infected patients. Further, several pharmaceutical and biotechnology firms, including major pharmaceutical companies and specialized structure-based drug design companies, have announced efforts in the field of structure-based drug design and molecules in development in the fields of HAE and in other therapeutic areas where we have discovery and development efforts ongoing. 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 non-competitive or eliminate or reduce demand for our product candidates.

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.

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.

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 RAPIVAB or any other FDA-approved products we 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 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 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 commercial sale of RAPIVAB and 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 five 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 result in the value of your 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 March 31, 2015, the 52-week range of the market price of our stock was from $7.29 to $14.62 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 April 30, 2015, there were 72,520,545 shares of our common stock outstanding. We may from time to time issue securities in relation to a license arrangement, collaboration, merger or acquisition.

As of April 30, 2015, there were 10,920,129 stock options and restricted stock units outstanding, 1,327,593 shares available for issuance under our Amended and Restated Stock Incentive Plan, and 518,511 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.

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. 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.

Item 6. Exhibits

See the Exhibit Index attached to this quarterly report and incorporated herein by reference.

SIGNATURES

Pursuant to the requirements 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 this 8th day of May, 2015.

BIOCRYST PHARMACEUTICALS, INC.

/s/ Jon P. Stonehouse

Jon P. Stonehouse
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Thomas R. Staab, II

Thomas R. Staab, II
Senior Vice President, Chief Financial Officer and Treasurer
(Principal Financial and Principal Accounting Officer)

INDEX TO EXHIBITS

Number	Description
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 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.
3.4	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 8, 2014.
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 8, 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.
10.1	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 to the Company's Form 10-K filed March 2, 2015.
(10.2)†	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. (Portions omitted pursuant to request for confidential treatment.)
(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 Quarterly Report on Form 10-Q of BioCryst Pharmaceuticals, Inc. for the three months ended March 31, 2015, formatted in XBRL: (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Comprehensive Loss, (iii) Consolidated Statements of Cash Flows, and (iv) Notes to Consolidated Financial Statements.

( ) Filed or furnished herewith.
† Confidential treatment requested.

Pursuant to 17 CFR 20.24b-2, confidential information has been omitted in places marked " * * * " and has been filed separately with the Securities and Exchange Commission pursuant to a Confidential Treatment Application with the Commission.

AWARD/CONTRACT	1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)	RATING N/A	PAGE 1	OF PAGES 55
2. CONTRACT *(Proc. Inst. Ident.)* NO. HHSO100201500007C	3. EFFECTIVE DATE March 31, 2015	4. REQUISITION/PURCHASE REQUEST/PROJECT NO. OS150001		

5. ISSUED BY CODE	6. ADMINISTERED BY *(If other than Item 6)* CODE
Office of Acquisitions Management, Contracts, and Grants (AMCG) 330 Independence Ave., S.W. Room G640 Washington, D.C. 20201	**See Block 5.**

7. NAME AND ADDRESS OF CONTRACTOR *(No. street, county, state and ZIP Code)*	8. DELIVERY **See Schedule.**
BioCryst Pharmaceuticals Nottingham Hall 4505 Emperor Blvd., Suite 200 Durham, NC 27703 **CAGE: 4GBX7**	9/ DISCOUNT FOR PROMPT PAYMENT N/A
	10. SUBMIT INVOICES ADDRESS SHOWN IN: F.3 — ITEM See Section G.

CODE DUNS No. 618194609	FACILITY CODE	
11. SHIP TO/MARK FOR CODE N/A	12. PAYMENT WILL BE MADE BY CODE N/A	
See Block 5 o o	See Block 5	
13. AUTHORITY FOR USING OTHER FULL AND OPEN COMPETITION: **N/A** 10 U.S.C. 2304(c)( ) 41 U.S.C. 253(c)( )	14. ACCOUNTING AND APPROPRIATION DATA Object Class - 25103 CAN# - 1990500	

15A. ITEM NO.	15B. SUPPLIES/SERVICES	15C. UNIT PRICE	15D. AMOUNT	15E. UNIT PRICE	15F. AMOUNT
Title: BCX4430 NDA Enabling CMC and Non-Clinical Toxicology Studies		(See Schedule)	(See Schedule)	(See Schedule)	(See Schedule)

15G. TOTAL AMOUNT OF CONTRACT **› $12,133,606**

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CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17.X CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _2_ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18.o AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____, including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER *(Type or print)*	20A. NAME OF CONTRACTING OFFICER
Jon P. Stonehouse	Thomas P. Hastings

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
(Signature of person authorized to sign)		BY *(Signature of person authorized to sign)*	

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PART I – THE SCHEDULE

SECTION B – SUPPLIES OR SERVICES AND PRICES/COSTS

ARTICLE B.1. BRIEF DESCRIPTION OF SUPPLIES OR SERVICES

There are currently no medical countermeasures (MCMs) available for the prophylaxis or treatment of infection with Ebola virus, a high priority agent for the PHEMCE Implementation Plan.

BioCryst's proposal focuses on BCX4430, a novel small molecule nucleoside with broad spectrum antiviral activity being developed for diseases caused by RNA pathogens. BCX4430, an inhibitor of viral RNA – dependent RNA polymerase (RdRp), is the lead compound in BioCryst's broad spectrum antiviral program to meet the need for an effective and broad-spectrum parenteral direct- acting antiviral medical countermeasure (MCM). The proposed activities take into account the Ebola virus disease (EVD) outbreak in West Africa while advancing the development of BCX4430 toward an NDA filing. The tasks include manufacturing process development activities, manufacturing of Drug substance (DS) and drug product (DP) and clinical trial material, and the nonclinical development activities to advance the intra-muscular and intravenous formulation through NDA-enabling toxicology studies including * * * toxicology and * * * toxicology in the * * *

The Advanced Research and Development effort will progress in specific stages that cover the base work segment and the four (4) option work segments. Work performed during the base segment and in the four (4) option segments each constitutes an independent, non-severable discrete work segment that cannot be subdivided for separate performance. Work specified in each work segment is , and each are necessary to support the development of BCX 4430 as an MCM. Each of the non-severable, discreet work segments contains multiple activities that when reviewed in total shall satisfy a defined end-product for each segment. The Government has determined that it has a Bona Fide Need for each non-severable discrete work segment. That need will be met upon the completion of the defined task(s) listed in the Work Breakdown Statement (WBS) in the Statement of Work (SoW) for each work segment (See Section J- Attachment 1), the completion of the Milestones in the Contract and submission of the deliverables required in the Contract (See Section J–Attachment 2.). Each work segment provides independent merit and value to the Government. Each work segment will be fully funded from an appropriation source that is current at the time the contract is awarded (Base Work Segment) and at the time the Government exercises each option.

ARTICLE B.2. BASE PERIOD (March 31, 2015 through September 30, 2016)

a. The total estimated cost of the base period of the contract excluding fee is **$** * * * .

b. The total fixed fee for the base period of performance is **$ * * ***

c. The fixed fee for the base period of performance (CLIN 0001) and any exercised cost- reimbursement contract options shall be paid at a rate equal to * * * % of actual costs incurred per invoicing period, with the balance of fee payable upon successful completion of all work under each CLIN, subject to the following limitations:

- The government shall withhold the payment of a portion of the fee to protect the government's interest as set forth in Federal Acquisition Regulation (FAR) 52.216-8, Fixed Fee (June 2011). The government shall withhold 15 percent of the total fixed fee or $100,000, whichever is less, until after government review and acceptance of the Final Technical Progress Report.

d. The total estimated cost of the base period of the contract, CLIN 0001, represented by the sum of the total estimated cost plus fixed fee is **$12,133,606**. The government will not be responsible for any Contractor-incurred costs that exceed this amount unless a modification to the contract is signed by the Contracting Officer which expressly increases this amount.

e. The Contractor shall maintain records of all contract costs and such records shall be subject to FAR 52.215-2 (Oct 2010), Audit and Records-Negotiation, and Health and Human Services Acquisition Regulation (HHSAR) 352.242-74, Final Decisions on Audit Findings, incorporated by reference into this contract in SECTION I.

CLIN	Estimated Period of Performance	Supplies/Services	Total Estimated Cost	Fixed Fee	Total Estimated Cost Plus Fixed Fee
0001	03/31/2015 – 09/30/2016	Manufacture of Clinical Trial Material and Process Improvements	* * *	* * *	$12,133,606

ARTICLE B.3. OPTION PRICES

Pursuant to FAR 52.217-9, Option to Extend the Term of the Contract (Mar 2000), set forth in full in ARTICLE I.3 of this contract, the government may, by unilateral contract modification, require the Contractor to perform discrete portions of additional work as specified in the Statement of Work.

Unless the government exercises one or more optional CLINs, the contract consists only of the base work specified in the Statement of Work as defined in SECTIONS C and F, with estimated costs set forth in ARTICLE B.2 of the contract.

CLIN	Option	Estimated Period of Performa nce	Supplies/ Services	Total Estimated Cost	Fixed Fee	Total Estimated Cost Plus Fixed Fee
0002	1	***	Commercial Scale-up and NDA Registration batches	$ ***	$ ***	$ ***
0003	2	***	Nonclinical NDA-enabling Toxicology IM	$ ***	$ ***	$ ***
0004	3	***	In Vitro Experiments	$ ***	$ ***	$ ***
0005	4	***	Nonclinical NDA-enabling Toxicology IV	$ ***	$ ***	$ ***

ARTICLE B.4. LIMITATIONS APPLICABLE TO DIRECT COSTS

a. Items Unallowable Unless Otherwise Provided

Notwithstanding the clause FAR 52.216-7, Allowable Cost and Payment, incorporated in this contract, unless authorized in writing by the Contracting Officer in the form of a Contracting Officer Authorization (COA), the costs of the following items or activities shall be unallowable as direct costs:

1. Acquisition, by purchase or lease, of any interest in real property;
2. Special rearrangement or alteration of facilities;
3. Purchase or lease of any item of general purpose office furniture or office equipment regardless of dollar value. (General purpose equipment is defined as any items of personal property which are usable for purposes other than research, such as office equipment and furnishings, pocket calculators, etc.);
4. Travel to attend general scientific meetings, subject to limitation under Article B.4.b.1;
5. Foreign travel;
6. Subcontractor and/or Consultant costs;
7. Patient care costs;
8. Accountable government property (defined as both real and personal property with an acquisition cost of $1,000 or more and a life expectancy of more than two years) and “sensitive items” regardless of acquisition value (Section J, Attachment 6).
9. Printing Costs (as defined in the government Printing and Binding Regulations).
10. Light Refreshment and Meal Expenditures are not authorized.
11. Costs for meeting room or conference space used for face to face meetings with United States government (USG) staff in the performance of this contract at Government or Contractor facilities are not authorized.

b. Travel Costs

1. Total expenditures for all travel (transportation, lodging, subsistence, and incidental expenses) incurred by the Prime Contractor in direct performance of this contract during the base period shall not exceed **$40,000** without the prior written approval of the Contracting Officer. Cost must be consistent with FAR 52.247-63 – Preference for U.S. - Flag Air Carriers.
2. The Contactor shall invoice and be reimbursed for all travel costs in accordance with FAR 31.205-46, Travel Costs and GSA Per Diem Rates (www.gsa.gov/perdiem).

3. Requests for foreign travel must be submitted at least four weeks in advance and shall contain the following:

(i) meeting(s) and place(s) to be visited, with costs and dates;
(ii) names(s) and title(s) of Contractor personnel to travel and their functions in the contract project;
(iii) contract purpose to be served by the travel;
(iv) how travel of Contractor personnel will benefit and contribute to accomplishing the contract project, or will otherwise justify the expenditure of AMCG contract funds;
(v) how such advantages justify the costs for travel and absence from the project of more than one person if such are suggested; and
(vi) what additional functions may be performed by the travelers to accomplish other purpose of the contact and thus further benefit the project.

ARTICLE B.5. ADVANCE UNDERSTANDINGS

a. **Subcontracts**

Prior written consent from the Contracting Officer in the form of a Contracting Officer Authorization (COA) is required for any subcontract that:

Is of the cost-reimbursement type or Time-and-Materials (T&M);

Is Fixed-Price and exceeds $150,000 or 5% of the total estimated cost of the Contract, whichever value is greater.

The Contracting Officer shall request appropriate supporting documentation in order to review and determine authorization, pursuant with FAR Clause 52.244-2, Subcontracts (Alternate I). After receiving written consent of the subcontract by the Contracting Officer, a copy of the signed, executed subcontract and consulting agreement shall be provided to the Contracting Officer within ten (10) calendar days.

Note: Consulting services are treated as subcontracts and subject to the 'consent to subcontract' provisions set forth in this Article.

b. * * * **as major subcontractor under the Contract**

The services under the Contract will include certain chemical manufacturing services. It is anticipated that, a large portion of the chemical manufacturing services will be subcontracted to * * * by the Contractor. Accordingly, * * * is expected to be a material subcontractor under the Contract and COA approval is hereby granted.

c. **Services Performed under Contract with NIAID**

Certain development services have been funded under by HHS/NIAID under contract number HHS27220130017C (the "NIAID Contract"). The focus of the NIAID Contract were certain IND enabling studies as well as certain contract manufacturing transfer and scale up services and certain Phase 1 studies. The parties recognize that certain work under this Contract is not expected to begin until certain related services ("Related Services") are completed under the NIAID Contract. Such services include but are not limited to the technology transfer and scale up chemical manufacturing services at * * * The parties agree that if for any reason the Related Services are delayed or unable to be completed under the NIAID Contract, Contractor shall be relieved of its obligations to continue performance under this Contract.

d. **Security**

A Security Plan is required for this effort. A security waiver may be requested. In the event a security waiver cannot successfully be attained, the Government will notify the Contractor who will subsequently be required to deliver a security plan to the Government, conforming with the following paragraphs.

The work to be performed under this contract will involve access to sensitive Biomedical Advanced Research and Development Authority [BARDA] program information. Upon contract award, the Program Protection Officer (PPO) will request submission of and review the Draft Security Plan in detail and submit comments within ten (10) business days to the CO to be forwarded to the Contractor. The Contractor shall review the Draft Security Plan comments, and if changes are required, submit a Final Security Plan to the U.S. Government within thirty (30) calendar days after receipt of the Program Protection Officer's (PPO) comments. The Final Security Plan shall include a timeline for compliance of all the required security measures. Upon completion of initiating all security measures, the Contractor shall supply to the CO and Contracting Officer's Representative (COR) a letter certifying compliance to the elements outlined in the Final Security Plan. The execution of the work under this contract shall be in accordance with the approved Final Security Plan. As outlined above, the content of the Final Security Plan shall be considered as part of the Contractor's Technical Proposal. The Contractor shall ensure that the storage, generation, transmission or exchanging of BARDA sensitive information has the appropriate security controls in place. At a minimum, the Final Security Plan shall address the following items:

Personnel Security Policies and Procedures including, but not limited to: Recruitment of new employees; Interview process; Personnel background checks; Suitability/adjudication policy; Access determination; Rules of behavior/conduct; Termination procedures; Non-disclosure agreements.

Physical Security Policies and Procedures including but not limited to: Internal/external access control; Identification/badge requirements; Facility visitor access; Parking areas and access; Barriers/perimeter fencing; Shipping, receiving and transport (on and off- site); Security lighting; Restricted areas; Signage; Intrusion detection systems; Closed circuit television; Other control measures.

Information Security Policies and Procedures including but not limited to: Identification of sensitive information; Access control/determination; Secured storage infrastructure; Document control; Retention/destruction requirements.

Information Technology Security Policies and Procedures including but not limited to: Intrusion detection and prevention systems; firewalls, Encryption systems; Identification of sensitive information/media; Passwords; Removable media; Laptop policy; Media access control/determination; Secure storage; System document control; System backup; System disaster recovery.

Security Reporting Requirement - Violations of established security protocols shall be reported to the CO and COR within 24 hours of the contractor's discovery of any compromise, intrusion, loss or interference of its security processes and procedures. The Contractor shall ensure that all software components that are not required for the operation and maintenance of the database/control system have been removed and/or disabled. The Contractor shall provide to the CO and the COR information appropriate to Information and Information Technology software and service updates and/or workarounds to mitigate all vulnerabilities associated with the data and shall maintain the required level of system security.

The Contractor will investigate violations to determine the cause, extent, loss or compromise of sensitive program information, and corrective actions taken to prevent future violations. The CO in coordination with BARDA will determine the severity of the violation. Any contractual actions resulting from the violation will be determined by the Contracting Officer.

e. **Confidential Treatment of Sensitive Information**

The Contractor shall, to the extent permitted by law, guarantee strict confidentiality of sensitive/confidential information/data that is provided by the USG during the performance of the contract. The USG has determined that certain information/data that the Contractor will be provided during the performance of the contract is of a sensitive nature.

Disclosure of confidential/sensitive information/data, in whole or in part, by the Contractor can only be made after the Contractor receives prior written approval from the Contracting Officer. Whenever the Contractor is uncertain with regard to the proper handling of information/data under the contract, the Contractor shall obtain a written determination from the Contracting Officer.

Notwithstanding the foregoing, such information/data shall not be deemed of a sensitive or confidential nature with respect to the Contractor for purposes of this contract if such information/data: (a) was already known to the Contractor other than by prior disclosure by the USG or discovered through work under a prior USG contract; (b) was generally available or known, or was otherwise part of the public domain, at the time of its disclosure to the Contractor; (c) became generally available or known, or otherwise became part of the public domain, after its disclosure to, or, with respect to the information/data by, the Contractor through no fault of the Contractor; (d) was disclosed to the Contractor, other than under an obligation of confidentiality or non-use, by a third party who had no obligation to the USG that controls such information/data not to disclose such information/data to others; or (e) was independently discovered or developed by the Contractor, as evidenced by its written records, without the use of information/data belonging to the USG.

The Contractor may disclose information/data of a sensitive nature provided by the USG to the extent that such disclosure is: (a) made in response to a valid order of a court of competent jurisdiction (b) otherwise required by law or regulation, (c) made by the Contractor to the Regulatory Authorities as required in connection with any filing, application or request for Regulatory Approval; provided, however, that reasonable measures shall be taken to assure confidential treatment of such information/data.

f. **Sharing of contract deliverables within United States Government (USG)**

In an effort to build a robust medical countermeasure pipeline through increased collaboration, BARDA may share technical deliverables with USG entities responsible for Medical Countermeasure Development. In accordance with recommendations from the Public Health Emergency Medical Countermeasure Enterprise Review, agreements established in the Integrated Portfolio Advisory Committee (PAC) Charter, and agreements between BARDA and the Department of Defense and the National Institutes of Health, BARDA may share technical deliverables and data created in the performance of this contract with colleagues within the Integrated Portfolio. This advance understanding does not authorize BARDA to share financial information outside of the United States Government. The Contractor is advised to review the terms of FAR 52.227-14, Rights in Data – General, regarding the government’s rights to deliverables submitted during

performance as well as the government's rights to data contained within those deliverables.

g. **Approval of Protocols**

The Contractor shall submit all protocols as referenced under this Contract to the COR f o r review and approval. The Government requires no fewer than eight (8) business days to perform a review. The Contractor shall take this review time into account and submit protocols as early as possible to avoid delays. The Government's comments and feedback shall be addressed prior to approval. The COR will review and provide approval of protocols.

h. Rights in Data

The contract will incorporate the Alternate II to FAR Clause 52.227-14, Rights in Data—general, pursuant to FAR Clause 52.227-14 (g)(3). In the event that the U.S. Government requires the delivery of pre-existing privately funded data, BioCryst will identify that specific pre-existing privately funded data and that data will be marked with the limited rights notice specified under FAR Clause 52.227-14 (g)(3)(a).

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

ARTICLE C.1. STATEMENT OF WORK

Independently and not as an agent of the government, the Contractor shall furnish all the necessary services, qualified personnel, material, equipment, and facilities not otherwise provided by the government as needed to perform the Statement of Work dated March 27, 2015, set forth in SECTION J - List of Attachments, attached hereto and made a part of the contract.

ARTICLE C.2. REPORTING REQUIREMENTS

Refer to ARTICLE F.2 for specific instructions regarding Reporting Requirements.

ARTICLE C.3. EARNED VALUE MANAGEMENT SYSTEM (EVMS) IMPLEMENTATION REQUIREMENTS

The Contractor and BARDA agree that the EVMS implementation requirements that are contained in the contract are limited to the implementation requirements outlined by the 7 Principles of Earned Value Management Tier 3 System Implementation Intent Guide contained in the Attachments (Section J.) of the contract. The total amount of this contract reflects the use of the 7 Principles of EVMS Implementation.

Refer to Article F.2. for specifics on EVMS deliverables.

ARTICLE C.4. PROJECT MEETING CONFERENCE CALLS

A conference call between the Contracting Officer's Representative and designees and the Contractor's Project Leader/delegate and designees shall occur bi-weekly or as otherwise mutually agreed upon by the USG and the Contractor or determined by the Contracting Officer. During this call the Contractor's Project Leader/delegate and designees will discuss the activities since the last call, any problems that have arisen and the activities planned until the next call takes place. The Contractor's Project Leader/delegate may choose to include other key personnel on the conference call to give detailed updates on specific projects or this may be requested by the Contracting Officer's Representative. Electronic copy of conference call meeting minutes/summaries shall be provided via e-mail to the CO, COR, and uploaded in e-room by the Contractor within five (5) business days after the conference call is held.

ARTICLE C.5. OTHER PROJECT MEETINGS

a. **Kickoff Meeting**

The Contractor and USG shall conduct a kickoff meeting within 30 calendar days after contract award. Contractor shall provide an itinerary/agenda no later than 5 business days before meeting. Minutes from the kickoff meeting must be provided within 10 business days of the event.

b. **Quarterly and Ad-Hoc Meetings**

The contractor shall participate in Project Meetings to coordinate the performance of the contract, as requested by the Contracting Officer's Representative. These meetings may include face-to-face meetings with AMCG and BARDA in Washington, D.C. and at work sites of the Contractor and subcontractors. Such meetings may include, but are not limited to, meetings of the Contractor to discuss study designs, site visits to the Contractor's facilities, and meetings with the Contractor and HHS officials to discuss the technical, regulatory, and ethical aspects of the program. Subject to the data rights provisions in this contract, the Contractor will provide data, reports, and presentations to groups of outside experts and USG personnel as required by the Contracting Officer's Representative in order to facilitate review of contract activities. Contractor shall provide itinerary/agenda at least 5 business days in advance of face-to-face meeting.

c. F**ace-to-Face Project Review Meetings**

The contractor shall, at a time to be determined later, present a comprehensive review of contract progress to date in a face-to-face meeting in Washington, DC. The contractor will be responsible for updating BARDA program on technical progress under the Statement of Work. Presentation must be delivered seven (7) business days prior to the scheduled meeting.

SECTION D – PACKAGING, MARKING AND SHIPPING

All deliverables required under this contract shall be packaged, marked and shipped in accordance with USG specifications. At a minimum, all deliverables shall be marked with the contract number and Contractor name. The Contractor shall guarantee that all required materials shall be delivered in immediate usable and acceptable condition

Unless otherwise specified by the Contracting Officer, delivery of reports to be furnished to the USG under this contract (including invoices) shall be delivered to AMCG and BARDA electronically along with a concurrent email notification to the Contracting Officer, Contract Specialist, and COR (as defined in SECTION F.3. ELECTRONIC SUBMISSION) summarizing the electronic delivery.

SECTION E – INSPECTION AND ACCEPTANCE

ARTICLE E.1. FAR 52.252-2, CLAUSES INCORPORATED BY REFERENCE (FEBRUARY 1998)

This contract incorporates the following clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at these addresses: https://www.acquisition.gov/FAR/ . HHSAR Clauses at: http://www.hhs.gov/policies/hhsar/subpart352.html.

FAR Clause	**Title and Date**
52.246-9	Inspection of Research and Development (Short Form) (Apr 1984)

ARTICLE E.2. DESIGNATION OF GOVERNMENT PERSONNEL

For the purpose of this SECTION E, the designated Contracting Officer's Representative (COR) is the authorized representative of the Contracting Officer. The COR will assist in resolving technical issues that arise during performance. The COR however is not authorized to change any contract terms or authorize any changes in the Statement of Work or modify or extend the period of performance, or authorize reimbursement of any costs incurred during performance.

ARTICLE E.3. INSPECTION, ACCEPTANCE AND CONTRACT MONITORING

Inspection and acceptance of the materials services and documentation called for herein shall be accomplished by the Contracting Officer or a duly authorized representative.

Inspection and acceptance will be performed at:

Office of Acquisition Management, Contracts, and Grants (AMCG) Office of the Assistant Secretary for Preparedness and Response

U.S. Department of Health and Human Services 330 Independence Avenue, S.W., Room G640 Washington, D.C. 20201

a. **Site Visits and Inspections**

At the discretion of the USG and independent of activities conducted by the Contractor, with 48 hours' notice to the contractor, the USG reserves the right to conduct site visits and inspections on an as needed basis, including collection of product samples and intermediates held at the location of the contractor, or subcontractor. All costs reasonably incurred by the Contractor and subcontractor for such visit and/or inspection shall be allowable costs subject to the Allowable cost requirements in FAR Subpart 31.2. The Contractor shall coordinate these visits and shall have the opportunity to accompany the USG on any such visits. Under time-sensitive or critical situations, the USG reserves the right to suspend the 48 hour notice to the Contractor. The areas included under the site visit could include, but are not limited to: security, regulatory and quality systems, manufacturing processes and cGMP/GLP/GCP compliance.

If the USG, Contractor, or other party identifies any issues during an audit, the Contractor shall capture the issues, identify potential solutions, and provide a report to the USG for review and acceptance.

- If issues are identified during the audit, the Contractor shall submit a report to the CO and COR within five (5) business days detailing the finding and corrective action(s) of the audit.
- COR and CO will review the report and provide a response to the Contractor within ten (10) business days.
- Once corrective action is completed, the Contractor will provide a final report to the CO and COR.

SECTION F – DELIVERIES OR PERFORMANCE

ARTICLE F.1. PERIOD OF PERFORMANCE

Base Period

Under CLIN 0001, the estimated period of performance for the base performance segment of this contract shall be from March 31, 2015 through September 30, 2016 (18 months).

Option CLINs

CLIN	Option	Estimated Period of Performance	Supplies/Services
0002	1	* * *	Commercial Scale-up and NDA Registration batches
0003	2	* * *	Nonclinical NDA-enabling Toxicology IM
0004	3	* * *	In Vitro Experiments
0004	4	* * *	Nonclinical NDA-enabling Toxicology IV

NOTE: Base period and all option periods (if exercised in accordance with FAR clause FAR clause 52.217-09, Option to Extend the Term of the Contract (Mar 2000), shall not exceed * * * months.

ARTICLE F.2. DELIVERABLES

Successful performance of the final contract shall be deemed to occur upon completion of performance of the work set forth in the Statement of Work dated March 27, 2015, set forth in SECTION J - List of Attachments of this contract and upon delivery and acceptance, as required by the Statement of Work, by the Contracting

Officer, of each of the deliverables described in SECTION C, SECTION F, and SECTION J, Attachment 2, “Contract WBS Milestones and Related Deliverables”.

All deliverables and reporting documents listed within this section shall be delivered electronically (as defined in SECTION F.3. ELECTRONIC SUBMISSION) to the CO, CS, and the COR unless otherwise specified by the Contracting Officer.

a. **Summary of Contract Deliverables**

Unless otherwise specified by the Contracting Officer, the deliverables identified in this SECTION F shall also be delivered electronically to the designated eRoom along with a concurrent email notification sent to the Contracting Officer, Contract Specialist, COR, and Alternate COR stating delivery has been made.

All paper/hardcopy documents/reports submitted under this contract shall be printed or copied, double- sided, on at least 30 percent post-consumer fiber paper, whenever practicable, in accordance with FAR 4.302(b). Hard copies of deliverables and reports furnished to the USG under the resultant Contract (including invoices) shall be addressed as follows:

HHS/ASPR/AMCG
ATTN: Thomas P. Hastings, Contracting Officer 330 Independence Avenue, S.W., Room G640
Washington, DC 20201
* * *

HHS/ASPR/BARDA
ATTN: Kimberly Sciarretta, Contracting Officer’s Representative 330 Independence Avenue, S.W., Room G640
Washington, DC 20201
* * *

Technical Reports			
Item	**Deliverable**	**Description**	**Deliverable Schedule**
1	Once Monthly Teleconference and Meeting Minutes	The Contractor shall prepare minutes of all "Project Meetings and "Project Meeting Conference Calls" as defined in Article C. of this contract. In preparation for the monthly calls, briefing materials, including the agenda and documents and information to be discussed will be prepared as needed.	Contractor shall provide teleconference agenda and related materials twenty-four (24) hours in advance of the call. Contractor provides meeting minutes to COR within five (5) business days of the meeting. COR reviews, comments, and approves minutes within 15 business days of receipt.
2	Draft Security Plan	Draft Security Plan as detailed in Article B.5.d.	Within 10th calendar days following the effective date of the contract
3	Monthly Technical Progress Report and Invoice	Monthly Progress report shall address the progress occurring over the corresponding period of time. See below, ARTICLE F.2.(b), "Detailed Description of Select Contract Deliverables," for detailed instructions. Additionally, submission of the Monthly Technical Progress Report will contain the invoice for actual costs incurred during the previous month that work was performed under the contract. The costs incurred in the invoice will be justified in a summary report contained within the Monthly Technical Progress Report.	The 15th calendar day of each month following the first full month of the contract award. The Monthly Progress Report will not be required in months when an Annual or Final Technical Progress Report is due.
4	Annual Progress Report	Annual Progress report shall address the progress occurring over the corresponding period of time. See below, Article F.2.(b), "Detailed Description of Select Contract Deliverables," for detailed instruction.	The 15th calendar day of the month following the end of each 12- month performance period. The Monthly Progress Report will not be required in months when an Annual Progress report is due
5	In-Process Review (GO/NO GO Decision Gate) Presentation	In preparation for the IPR, the Contractor shall prepare a presentation demonstrating the technical progress made towards completion of the tasks under each work segment. The presentation shall demonstrate the status or completion of the milestones and deliverables as specified under Section F.	The presentation must be submitted to the CO/COR thirty (30) business days prior to the IPR IPR for BARDA review and comment. Subsequently, a revised/final presentation will be required ten (10) business days prior to the IPR. The CO will provide a written response within ten (10) business days on the decision to exercise or not exercise an option.

6	Earned Value Management Report	As described in Article C.3.	The 15th calendar day of each month following the first full month of the contract award.
7	Draft Final Technical Progress Report	A draft Final Report containing a summation of the work performed under each task and subtask and the results obtained for the entire contract Period of Performance (PoP). The draft report shall be duly marked as “Draft.” BARDA will provide comments that the Contractor shall incorporate into the Final Technical Progress Report.	Forty-five (45) calendar days before the completion date of the contract.
8	Final Technical Progress Report	A Final Report containing a summation of the work performed and the results obtained for the entire contract Period of Performance (PoP).	Thirty (30) calendar days after the technical period of performance.
9	Summary of Salient Results	Contractor shall submit, with the Final Report, a summary (not to exceed 200 words) of salient results achieved during the performance of the contract.	On or before the expiration date of the contract.
10	Deviation Notification. Changes to Execution of Planned Tasks and Mitigation Strategy	In order to process for changing tasks, including activities associated with task content, cost and schedule per IMP/Gantt baseline, the Contractor s h al l notify the Government of significant changes, justification, and rationale for proposed alternative in writing. Cost reallocation and reconciliation of the budget should be included. Contractor shall provide a high-level management strategy for risk mitigation and update the Risk Management Plan	Notice due within 1 week after discovery or need for changes to product development plan per Gantt identified. Contractor shall revise the IMP/Gantt within thirty (30) calendar days, update monthly s part of the Monthly Progress Report, and update the Risk Management Plan. Contractor must address, in writing, all concerns raised by BARDA and re-submit a IMP/GANTT that reflects or addresses BARDA’s concerns.
11	Development Report	Final Reports detailing the parameters and capacity of upstream and downstream conditions.	Upon successful completion.

Other Technical Reports

Item	**Deliverable**	**Deliverable Schedule**
12	Audit Reports	Within fifteen (15) calendar days of the audit
13	FDA/Regulatory Agency Correspond. & Meeting Summaries	Within five (5) business days of each meeting for Contractor’s minutes and upon receipt of minutes from FDA/regulatory agency.

14	FDA/Regulatory Agency Submissions	BARDA shall provide comment within five (5) business days after receipt. BARDA reserves the right to request more than 5 business days for review of any regulatory submission that is of significant length. The Contractor shall inform BARDA of the anticipated submission length so BARDA can make a determination if more than 5 business days will be needed to complete its review of the document.
15	Supplemental Technical Documents	Upon request. Contractor shall provide CO and COR with deliverables from the following contract funded activities: Process Development Reports; Stability Assay Reports; Assay Qualification Plan/Report; Assay Validation Plan/Report; Assay Technology Transfer Report; Batch Records; Contractor/ Subcontractor Standard Operating Procedures (SOPs); Master Production Records; Certificate of Analysis; Clinical Studies Data or Reports. The CO and COR reserve the right to request within the PoP a nonproprietary technical document for distribution within the USG. Contractor shall provide technical document within 5 business days of CO or COR request. Contractor can request additional time on an as-needed basis. *If corrective action is recommended, the Contractor must address, in writing, concerns raised by BARDA.
16	Invention Report Annual Utilization Report	Due on or before the 30th of the month following each 12-month period of performance.
17	Final Invention Report	Due on or before the completion date of the contract.
18	Kickoff Meeting	Within thirty (30) calendar days of contract award.

b. **Detailed Description of Select Contract Deliverables**

1. **Monthly Progress Report**

This report shall include a description of the activities during the reporting period, and the activities planned for the ensuing reporting period. The first reporting period consists of the first full month of performance plus any fractional part of the initial month. Thereafter, the reporting period shall consist of each calendar month.

The Contractor shall submit a Monthly Progress Report on or before the 15th calendar day following the last day of each reporting period and shall include the following:

A cover page that includes the contract number and title; the type of report and period that it covers; the Contractor's name, address, telephone number, fax number, and e-mail address; and the date of submission;

SECTION I - An introduction covering the purpose and scope of the contract effort; SECTION II – PROGRESS

SECTION II Part A: OVERALL PROGRESS - A description of overall progress;

SECTION II Part B: MANAGEMENT AND ADMINISTRATIVE UPDATE - A description of all meetings, conference calls, etc. that have taken place during the reporting period. Include progress on administration and management issues (e.g. evaluating and managing subcontractor performance and personnel changes);

SECTION II Part C: TECHNICAL PROGRESS - For each activity related to the Gantt chart, document the results of work completed and costs incurred during the period covered in relation to proposed progress, effort and budget. The report shall be in sufficient detail to explain comprehensively the results achieved. The description shall include pertinent data and/or graphs in sufficient detail to explain any significant results achieved and preliminary conclusions resulting from analysis and scientific evaluation of data accumulated to date under the contract. Include progress or status updates for all SOW tasks in each of the monthly technical progress reports for which there is activity ongoing in that SOW task area(s) as well as data for completed studies in any SOW task. The report shall also include a description of problems encountered and proposed corrective action; differences between planned and actual progress, why the differences have occurred and what corrective actions are planned; preliminary conclusions resulting from analysis and scientific evaluation of data accumulated to date under the project.

SECTION II Part D: PROPOSED WORK - A summary of work proposed for the next reporting period and preprints/reprints of papers and abstracts, and a current/updated Gantt chart.

SECTION II Part E: Outstanding Issues/Anticipated Areas of Concern - a list of any existing contractual concerns that impact the technical scope of work, schedule, or cost, as well as a list of potential or anticipated areas of concern that may be encountered in the future months.

A Monthly Progress Report will not be required in the same month that the Annual or Final Technical Progress Reports are submitted.

2. **Annual Progress Reporting Requirement**

This report shall include a summation of the activities during the reporting period, and the activities planned for the ensuing reporting period. The first reporting period consists of the first full year of performance plus any fractional part of the initial year. Thereafter, the reporting period shall consist of each calendar year.

The Contractor shall submit an Annual Progress Report on or before the 15th calendar day following the last day of each reporting period and shall include the following:

A cover page that includes the contract number and title; the type of report and period that it covers; the Contractor's name, address, telephone number, fax number, and e-mail address; and the date of submission;

SECTION I-EXECUTIVE SUMMARY - A brief overview of the work completed and major accomplishments achieved during the reporting period.

SECTION II-PROGRESS

SECTION II Part A: OVERALL PROGRESS - A description of overall progress highlighting the

significant accomplishments in the past year;

SECTION II Part B: MANAGEMENT AND ADMINISTRATIVE UPDATE - A description of all meetings, conference calls, etc. that have taken place during the reporting period. Include progress on administration and management issues (e.g. evaluating and managing subcontractor performance and personnel changes);
SECTION II Part C: TECHNICAL PROGRESS - For each activity, document the results of work completed and cost incurred during the period covered in relation to proposed progress, effort and budget. The report shall be in sufficient detail to explain comprehensively the results achieved. The description shall include pertinent data and/or graphs in sufficient detail to explain any significant results achieved and preliminary conclusions resulting from analysis and scientific evaluation of data accumulated to date under the contract. The report shall include a description of problems encountered and proposed corrective action; differences between planned and actual progress, why the differences have occurred and what corrective actions are planned; preliminary conclusions resulting from analysis and scientific evaluation of data accumulated to date under the project. The report should summarize progress made under each SOW task.

SECTION II Part D: PROPOSED WORK - A summary of work proposed for the next reporting period; and preprints/reprints of papers, abstracts and a current Gantt chart.

A Monthly and Annual Progress Report will not be required for the period when the Final Technical Progress Report is due and a Monthly Progress Report will not be required in the same month that the Annual Progress Report is submitted.

Draft Final Technical Progress Report and Final Technical Progress Report

These reports are to include a summation of the work performed and results obtained for the entire contract period of performance, detailing accomplishments for each task. This report shall be in sufficient detail to describe comprehensively the results achieved. The Draft Final Report and Final Report shall be submitted in accordance with the DELIVERIES Article in SECTION F of the contract. The Draft Final Technical Progress Report shall be submitted forty-five (45) calendar days before completion date of the contract and the Final Technical Progress Report shall be submitted 30 Calendar days post technical period of performance. The report shall conform to the following format:

Cover page to include the contract number, contract title, performance period covered, Contractor's name and address, telephone number, fax number, e- mail address and submission date;

SECTION I: EXECUTIVE SUMMARY - Summarize the purpose and scope of the contract effort including a summary of the major accomplishments relative to the specific activities set forth in the Statement of Work.;

SECTION II: RESULTS - A detailed description of the work performed related to the Gantt chart, the results obtained, and the impact of the results on the scientific and/or public health community, including a listing of all manuscripts (published and in preparation) and abstracts presented during the entire period of performance, and a summary of all inventions.

Draft Final Technical Progress Report: The Contractor is required to submit the Draft Final Technical Progress Report to the Contracting Officer's Representative and Contracting Officer. This report is due forty-five (45) calendar days before the completion date of the contract. The Contracting Officer's Representative and Contracting Officer will review the Draft Final

Technical Progress Report and provide the Contractor with comments within fifteen (15) calendar days after receipt.

Final Technical Progress Report: The contractor shall incorporate all BARDA comments into the Final Technical Progress Report. The Contractor will deliver the final version of the Final Technical Progress Report 30 Calendar days post technical period of performance.

3. **Summary of Salient Results**

On or before the expiration of the contract the Contractor shall submit, with the Final Technical Progress Report, a summary (not to exceed 200 words) of salient results achieved during the performance of the contract.

4. **Audit Reports**

Within fifteen (15) calendar days of an audit related to conformance to FDA regulations and guidance, including adherence to GLP, GMP, GCP guidelines, the Contractor shall provide copies of the audit report (so long as received from the FDA) and a plan for addressing areas of nonconformance to FDA regulations and guidelines for GLP, GMP, or GCP guidelines as identified in the final audit report.

5. **Copies of FDA/Regulatory Agency Correspondence and Meeting Summaries**

- Within five business days of any formal meeting with the FDA or other regulatory agency, the contractor shall forward the initial draft minutes to BARDA. The contractor shall forward final draft minutes when available.
- Within five business days of any informal meeting with the FDA or other regulatory agency, the contractor shall forward the final draft minutes to BARDA.
- The contractor shall forward the dates and times of any meeting with the FDA and other regulatory agencies to BARDA and make arrangements for appropriate BARDA staff to attend the meetings.
- The contractor shall provide BARDA the opportunity to review and comment upon any documents to be submitted to the FDA or other regulatory agency. The contractor shall provide BARDA with five (5) business days in which to review and provide comments back to the contractor's submission to the FDA.
- The contractor shall forward Standard Operating Procedures (SOPs) upon request from Project Officer/Contracting Officer.
- The contractor shall provide upon request animal study and/or other technology packages developed under this contract. Packages shall include complete protocols and critical reagents for animal models developed and/or improved with contract funding.
- The contractor shall provide upon request raw data and/or specific analysis of data generated with USG funds.

6. **Other Reports/Deliverables**

- **Government Rights in Data and Inventions**

Technology packages developed under the contract that include complete protocols and critical reagents developed and/or improved with contract funding must be submitted at the request of the Contracting Officer's Representative.

- **Institutional Biosafety Approval**

The Contractor shall provide documentation of materials submitted for Institutional Biosafety Committee Review and documentation of approval of experiments at the request of the Contracting Officer's Representative.

- **Experimental Protocols**

The Contractor shall submit all study/experiment/test plans, designs, and protocols.

7. **Data**

The Contractor shall provide data and/or specific analysis of data generated with contract funding at the request of the Contracting Officer's Representative.

Earned Value Management (EVM) Deliverables

i. **Earned Value Management (EVM) / Contract Performance Report (CPR)**

Contractor will provide a monthly CPR at an agreed upon reporting level using WBS and Variance Analysis report formats agreed upon by ASPR after EVM is implemented. The supplemental monthly Control Account Plan (CAP) report shall contain, at the work package level, time phased budget (budgeted cost of work scheduled), earned value (budgeted cost of work performed), and actual costs of work performed as captured in Contractor's EVM systems. The Contractor shall provide a rationale in the package of its use of % complete as EVMS methodology, or identity if any other EVMS methodology is being used.

- Contractor shall provide EVM/CPR as part of the Monthly Progress Report (this requirement begins only as set forth in the Contract Milestones & Related Deliverables table)
- Contractor shall provide top level or key changes in baseline cost as a result of anticipated cost savings or risks
- In accordance with FAR 52.215-2, Audit and Records-Negotiation (Oct 2010), the USG may request, on a monthly or ad hoc basis that the Contractor provide raw data at a reporting level or lower level as ASPR deems necessary.
- Contractor must address, in writing, all concerns raised by the USG.
- Reporting will commence after the EVM system has been implemented but no later than six (6) months after start of base period.

ii. **Integrated Master Plan (IMP)**

The Contractor shall provide an IMP including WBS, critical path milestones, and Earned Value Management Plan

- Contractor shall provide the draft IMP within 180 days of contract award with final due 8 months after award and updated monthly as part of the Monthly Progress Report
- Contractor must address, in writing, all concerns raised by the USG.

iii. **Performance Measurement Baseline Review (PMBR)**

PMBR Report shall address each of the items listed below and be cross- referenced to the IMP, WBS, SOW, and Risk Management Plan.

- Contractor provides baseline proposal
- Responsibility Assignment Matrix
- A description of the work scope through control account Work Authorization Documents and/or WBS Dictionary down to the agreed upon control account level.
- Template for work packages
- Integrated Master Schedule (IMS) with the inclusion of agreed major milestones and control account plans for all control accounts
- Baseline revision documentation and program log(s) risk management plan
- PMBR is due within one year of contract award
- Contractor shall provide baseline proposal .ppt briefing 10 business days prior to meeting
- Contractor provides agenda to COR 2 business days in advance of meeting
- COR approves (with CO concurrence) and distributes agenda
- COR approves (with CO concurrence) all meeting material
- Contactor provides minutes with 2 business days of the meeting
- COR reviews and approves (with CO concurrence) minutes
- ASPR will review documentation and provide written comments and questions to Contractor
- Contractor shall address BARDA's comments and resubmit PMBR report for BARDA approval within 10 business days.

iv. **Risk Management Plan**

The Contractor shall provide a Risk Management Plan that outlines the impacts of each risk in relation to the cost, schedule, and performance objectives. The plan shall include risk mitigation strategies. Each risk mitigation strategy will capture how the corrective action will reduce impacts on cost, schedule and performance.

§ Due within 180 days of contract award

§ Contractor provides updated Risk Management Plan in Monthly Progress Report

§ ASPR shall provide Contractor with a written list of concerns in response plan submitted

§ Contractor must address, in writing, all concerns raised by ASPR within 20 business days of Contractor's receipt of ASPR's concerns.

v. **Requirement for Notification of Deviation and Mitigation Strategy**

Process for changing IMS activities associated with cost and schedule as baselined at the PMBR. Contractor shall notify ASPR of significant changes to the IMS defined as increases in cost above 10% for Go/No Go Milestones or schedule slippage of more than 180 days, which would require an extension to the period of performance. Contractor shall provide a high level management strategy for risk mitigation. Notice due within one (1) business day after discovery.

ARTICLE F.3. ELECTRONIC SUBMISSION

For electronic delivery, the Contractor shall upload documents to the appropriate folder on https://eroom.bardatools.hhs.gov/eRoom ("eRoom") which is the designated USG file sharing system. The USG shall provide two contractor representatives authorized log in access to the file share program. Each representative must complete a mandatory training provided by the USG prior to gaining user access. A notification email should be sent to the CO and COR upon electronic delivery of any documents.

ARTICLE F.4. SUBJECT INVENTION REPORTING REQUIREMENT

All reports and documentation required by FAR Clause 52.227-11, Patent Rights-Ownership by the Contractor, including, but not limited to, the invention disclosure report, the confirmatory license, and the government support certification, one copy of an annual utilization report, and a copy of the final invention statement, shall be submitted to the Contracting Officer. A final invention statement (see FAR 27.303 (b)(2)(ii)) shall be submitted to the Contracting Officer on the expiration date of the contract.

Reports and documentation submitted to the Contracting Officer shall be sent to the address set forth in SECTION G – CONTRACT ADMINISTRATION DATA.

If no invention is disclosed or no activity has occurred on a previously disclosed invention during the applicable reporting period, a negative report shall be submitted to the Contracting Officer at the address listed above.

SECTION G - CONTRACT ADMINISTRATION DATA

ARTICLE G.1. CONTRACTING OFFICER

The following Contracting Officer (CO) will represent the USG for the purpose of this contract:

Thomas P. Hastings
Contracting Officer
DHHS/OS/ASPR/AMCG
330 Independence Avenue, S.W. Room G644 Washington, D.C. 20201
(571) 221-2978
* * *

1) The Contracting Officer (CO) is the only individual who can legally commit the USG to the expenditure of public funds. No person other than the Contracting Officer can make any changes to the terms, conditions, general provisions, or other stipulations of this contract.

2) The Contracting Officer is the only person with the authority to act as agent of the USG under this contract. Only the Contracting Officer has authority to (1) direct or negotiate any changes in the statement of work; (2) modify or extend the period of performance; (3) change the delivery schedule; (4) authorize reimbursement to the Contractor of any costs incurred during the performance of this contract; (5) otherwise change any terms and conditions of this contract.

3) No information other than that which may be contained in an authorized modification to this contract, duly issued by the Contracting Officer, which may be received from any person employed by the US government, other otherwise, shall be considered grounds for deviation from any stipulation of this contract.

4) The USG may unilaterally change the CO or CS designation.

ARTICLE G.2. CONTRACTING OFFICER'S REPRESENTATIVE (COR) and ALTERNATE CONTRACTING OFFICER'S REPRESENTATIVE (COR)

The following COR and Alternate COR will represent the government for the purpose of this contract:

COR:

Kimberly Sciarretta
Biomedical Advanced Research and Development Authority (BARDA) Office of the
Assistant Secretary for Preparedness and Response Department of Health and Human Services
Email:* * *
* * *

Alternate COR:

Chia-Wei Tsai
Biomedical Advanced Research and Development Authority (BARDA) Office of the
Assistant Secretary for Preparedness and Response Department of Health and Human Services
* * *
* * *

Mailing Address:

330 Independence Avenue, SW G644 Washington, D.C. 20201 The COR is responsible for:

The COR is responsible for:

1) Recommending to the Contracting Officer changes in requirements;

2) Assisting the Contracting Officer in interpreting the statement of work and any other technical performance requirements;

3) Performing technical evaluation as required;

4) Performing technical inspections and acceptances required by this contract; and

5) Assisting in the resolution of technical problems encountered during performance. The USG may unilaterally change the COR designation.

ARTICLE G.3. KEY PERSONNEL

The key personnel specified in this contract are considered to be essential to work performance. At least 30 days prior to diverting any of the specified individuals to other programs or contracts (or as soon as possible, if an individual must be replaced, for example, as a result of leaving the employ of the Contractor), the Contractor shall notify the Contracting Officer and shall submit comprehensive justification for the diversion or replacement request (including proposed substitutions for key personnel) to permit evaluation by the USG of the impact on performance under this contract. The Contractor shall not divert or otherwise replace any key personnel without the written consent of the Contracting Officer. The USG may modify the contract to add or delete key personnel at the request of the Contractor or USG.

The following individuals are considered to be essential to the work being performed hereunder:

Name	Title
William Sheridan	SVP and Chief Medical Officer and Principal Investigator
Ray Taylor	VP Project Management and Project Team Leader
Elliott Berger	SVP Regulatory Affairs

ARTICLE G.4. CONTRACT FINANCIAL REPORT

a. Financial reports on the attached Financial Report of Individual Project/Contract shall be submitted by the Contractor to the CO with a copy to the COR in accordance with the instructions for completing this form, which accompany the form, in an original and one electronic copy, not later than the 30th business day after the close of the reporting period. The line entries for subdivisions of work and elements of cost (expenditure categories), which shall be reported within the total contract, are discussed in paragraph e., below. Subsequent changes and/or additions in the line entries shall be made in writing.

b. Unless otherwise stated in the instructions for completing this form, all columns A through J, shall be completed for each report submitted.

c. The first financial report shall cover the period consisting of the first full three calendar months following the date of the contract, in addition to any fractional part of the initial month. Thereafter, reports will be on a quarterly basis.

d. The Contracting Officer may require the Contractor to submit detailed support for costs contained in one or more interim financial reports. This clause does not supersede the record retention requirements in FAR Part 4.7.

e. The listing of expenditure categories to be reported is incorporated as a part of this contract and can be found under SECTION J Attachment 4 entitled, "Financial Report of Individual Project/Contract,".

f. The USG may unilaterally revise the “Financial Report of Individual Project/Contract” to reflect the allotment of additional funds.

ARTICLE G.5. INVOICE/FINANCING REQUEST AND CONTRACT FINANCIAL REPORTING

Include Program Support Center (PSC) in Receipt of Invoices:

Documents shall be delivered electronically to the Contracting Officer (CO), the Contracting Specialist (CS), the Contracting Officer’s Representative (COR) and PSC. Unless otherwise specified by the Contracting Officer all deliverables and reports furnished to the Government under the resultant contract (including invoices) shall be addressed as follows:

Thomas P. Hastings Contracting Officer HHS/ASPR/AMCG 330 Independence Ave., S.W., Room G640 Washington, DC 20201 Email: * * *	Kimberly Sciarretta Contracting Officer Representative HHS/ASPR/BARDA 330 Independence Ave., S.W., Room G640 Washington, DC 20201 Email: * * *	* * *

a. Contractor invoices/financial reports shall conform to the form, format, and content requirements of the instructions for Invoice/Financing requests and Contract Financial Reporting.

b. Monthly invoices must include the cumulative total expenses to date, adjusted (as applicable) to show any amounts suspended by the USG.

c. The Contractor agrees to immediately notify the CO in writing if there is an anticipated overrun (any amount) or unexpended balance (greater than 10 percent) of the estimated costs for the base period or any option period(s) (See estimated costs under Articles B.2) and the reasons for the variance. These requirements are in addition to the specified requirements of FAR Clause 52.232-20, Limitation of Cost

that is incorporated by reference under Article I.1 which states;

Limitation of Cost (Apr 1984)

(a) The parties estimate that performance of this contract, exclusive of any fee, will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that—

(1) The costs the Contractor expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of the estimated cost specified in the Schedule; or

(2) The total cost for the performance of this contract, exclusive of any fee, will be either greater or substantially less than had been previously estimated.

(c) As part of the notification, the Contractor shall provide the Contracting Officer a revised estimate of the total cost of performing this contract.

(d) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this clause—

(1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of (i) the estimated cost specified in the Schedule or, (ii) if this is a cost-sharing contract, the estimated cost to the Government specified in the Schedule; and

(2) The Contractor is not obligated to continue performance under this contract (including actions under the Termination clause of this contract) or otherwise incur costs in excess of the estimated cost specified in the Schedule, until the Contracting Officer (i) notifies the Contractor in writing that the estimated cost has been increased and (ii) provides a revised estimated total cost of performing this contract. If this is a cost-sharing contract, the increase shall be allocated in accordance with the formula specified in the Schedule.

(e) No notice, communication, or representation in any form other than that specified in paragraph (d)(2) of this clause, or from any person other than the Contracting Officer, shall affect this contract's estimated cost to the Government. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the estimated cost or, if this is a cost- sharing contract, for any costs in excess of the estimated cost to the Government specified in the Schedule, whether those excess costs were incurred during the course of the contract or as a result of termination.

(f) If the estimated cost specified in the Schedule is increased, any costs the Contractor incurs before the increase that are in excess of the previously estimated cost shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice directing that the increase is solely to cover termination or other specified expenses.

(g) Change orders shall not be considered an authorization to exceed the estimated cost to the Government specified in the Schedule, unless they contain a statement increasing the estimated cost.

(h) If this contract is terminated or the estimated cost is not increased, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract, based upon the share of costs incurred by each.

d. The Contractor shall submit an electronic copy of the payment request to the approving official instead of a paper copy. The payment request shall be transmitted as an attachment via e-mail to the address listed above in one of the following formats: MSWord, MS Excel, or Adobe Portable Document Format (PDF). Only one payment request shall be submitted per e-mail and the subject line of the e-mail shall include the Contractor's name, contract number, and unique invoice number.

e. An electronic copy of the payment request shall be uploaded into the designated eRoom (as defined in SECTION F.3 ELECTRONIC SUBMISSION) and an e-mail notification of the upload will be provided to the CO and COR.

f. All invoice submissions shall be in accordance with FAR Clause 52.232-25, Prompt Payment (Oct 2008).

g. Invoices - Cost and Personnel Reporting, and Variances from the Negotiated Budget

The Contractor agrees to provide a detailed breakdown on invoices of the following cost categories:

a. Direct Labor - List individuals by name, title/position, hourly/annual rate, level of effort (actual hours or % of effort), and amount claimed.

b. Fringe Benefits - Cite rate and amount

c. Overhead - Cite rate and amount

d. Materials & Supplies - Include detailed breakdown when total amount is over $1,000.

e. Travel - Identify travelers, dates, destination, purpose of trip, and total breaking out amounts for transportation (plane, car etc), lodging, M&IE. Cite COA, if appropriate. List separately, domestic travel, general scientific meeting travel, and foreign travel.

f. Consultant Fees - Identify individuals, amounts and activities. Cite appropriate COA

g. Subcontracts - Attach subcontractor invoice(s). Cite appropriate COA

h. Equipment - Cite authorization and amount. Cite appropriate COA

i. Other Direct Costs - Include detailed breakdown when total amount is over $1,000.

j. G&A - Cite rate and amount.

k. Total Cost

l. Fee

m. Total Cost Plus Fixed Fee

Monthly invoices must include the cumulative total expenses to date, adjusted (as applicable) to show any amounts suspended by the USG. Nothing in this section discharges the contractor’s responsibility to comply with any applicable FAR Parts 30 or 31 clauses’ relating to cost reimbursement subcontracts. In order to verify allowability, further breakdown of costs may be requested at the USG’s discretion. The Contractor shall subcontract with Firm Fixed Price Contracts to the maximum extent practicable.
Additional instructions and an invoice template are provided in Attachment 3, Invoice/Financing Request Instructions and Contract Financial Reporting Instructions for Cost-Reimbursement Type Contracts. All invoices must be signed by a representative of the contractor authorized to certify listed charges are accurate and comply with government regulations. Invoices should be submitted electronically (in accordance with ARTICLE F.4., (ELECTRONIC SUBMISSION) and in hard copy with original signature.

ARTICLE G.6. INDIRECT COST RATES

The following contractor established provisional billing rates are incorporated into the contract, and will be utilized for billing purposes during both the base and contract option periods pending the establishment of final indirect cost rates for each fiscal year or until revised by the contracting officer in accordance with the provisions of FAR 42.705-1. See FAR Clause 52.216-7.

BioCryst Pharmaceuticals		
Rate Type	**Rate**	**Allocation Base**
Fringe Benefits	* * * %	* * *
Overhead	* * * %	* * *
G&A	* * * %	* * *

Use of the above provisional rates does not change any cost ceilings, contract obligations, or specific allowance or disallowance provided for in the contract.

Contractor must notify the contracting officer promptly for an adjustment of the provisional rates if it becomes evident that the rates would cause substantial overpayment or underpayment of indirect expenses to BioCryst Pharmaceuticals.

The final billing rates for each fiscal year will be based on the incurred cost submission subject to Government audit determination. Indirect costs rate proposals must be submitted to the cognizant agency's Contracting Officer within 6 months subsequent to each of the contractor's fiscal year ends. (See also FAR Clause 52.216-7(d) (2) incorporated herein). Copies of the indirect cost submission for each fiscal year must also be submitted to the AMCG contracting officer, and the AMCG auditor identified as follows:

Director, Acquisition Program Support
Office of Acquisition Management, Contracts and Grants (AMCG)
Office of the Assistant Secretary for Preparedness and Response (ASPR) US Department of Health and Human Services (DHHS)
300 Independence Avenue, SW, Room G644 Washington, DC 20201

ARTICLE G.7. REIMBURSEMENT OF COST

1) The USG shall reimburse the Contractor those costs determined by the Contracting Officer to be allowable (hereinafter referred to as allowable cost) in accordance with FAR 52.216-7, Allowable Cost and Payment and FAR Subpart 31.2. Examples of allowable costs include, but are not limited to, the following:

   a) All direct materials and supplies that are used in the performing of the work provided for under the contract, including those purchased for subcontracts and purchase orders.

   b) All direct labor, including supervisory, that is properly chargeable directly to the contract, plus fringe benefits.

   c) All other items of cost budgeted for and accepted in the negotiation of this basic contract or modifications thereto.

   d) Travel costs including per diem or actual subsistence for personnel while in an actual travel status in direct performance of the work and services required under this contract subject to the restrictions under Article B.4. b. and the following:

i. Air travel shall be by the most direct route using “air coach” or “air tourist” (less than first class) unless it is clearly unreasonable or impractical (e.g., not available for reasons other than avoidable delay in making reservations, would require circuitous routing or entail additional expense offsetting the savings on fare, or would not make necessary connections) and must comply with the Fly America Act (49 U.S.C. 40118).

ii. Rail travel shall be by the most direct route, first class with lower berth or nearest equivalent.

iii. Costs incurred for lodging, meals, and incidental expenses shall be considered reasonable and allowable to the extent that they do not exceed on a daily basis the per diem rates set forth in the Federal Travel Regulation (FTR).

iv. Travel via privately owned automobile shall be reimbursed at not more than the current General Services Administration (GSA) FTR established mileage rate.

ARTICLE G.8. POST AWARD EVALUATION OF CONTRACTOR PERFORMANCE

1. Contractor Performance Evaluations

Interim and final evaluations of Contractor performance will be prepared on this contract in accordance with FAR Subpart 42.1502. The final performance evaluation will be prepared at the time of completion of work. In addition to the final evaluation, an interim evaluation shall be submitted at least once during the contract period of performance. The interim evaluation is expected to be submitted on December 23, 2015.

Interim and final evaluations will be provided to the Contractor as soon as practicable after completion of the evaluation. The Contractor will be permitted thirty days to review the document and to submit additional information or a rebutting statement. If agreement cannot be reached between the parties, the matter will be referred to an individual one level above the Contracting Officer whose decision will be final.

Copies of the evaluations, Contractor responses, and review comments, if any, will be retained as part of the contract file, and may be used to support future award decisions.

2. Electronic Access to Contractor Performance Evaluations

The USG website for Contractor Performance Assessment Reporting System (CPARS) is http://www.cpars.gov. Through this website Contractors may access evaluations through a secure website for review and comment by completing the online registration form. The registration process requires the Contractor to identify an individual that will serve as a primary contact and who will be authorized access to the evaluation for review and comment. In addition, the Contractor will be required to identify an alternate contact that will be responsible for notifying the cognizant contracting official in the event the primary contact is unavailable to process the evaluation within the required 30-day time frame.

ARTICLE G.9. CONTRACT COMMUNICATIONS/CORRESPONDENCE

The Contractor shall identify all correspondence, reports, and other data pertinent to this contract by imprinting the contract number HHSO100201500007C from Page 1 of the contract.

ARTICLE G.10. OVERTIME COMPENSATION

No overtime (premium) compensation is authorized under this contract. Billing of actual hours should be limited to total working hours in a month.

SECTION H - SPECIAL CONTRACT REQUIREMENTS

The Contractor, depending upon the nature of the work, is responsible for following the provisions below in conducting its own work under this Contract. The Contractor also is responsible for incorporating these provisions into any subcontract awarded, if applicable to the specific nature of the work in the subcontract. Accordingly, those provisions shall be flowed- down as applicable.

ARTICLE H.1 CLINICAL AND NON-CLINICAL TERMS OF AWARD

BARDA has a responsibility to obtain documentation concerning mechanisms and procedures that are in place to protect the safety of participants and animals in BARDA funded clinical trials and non-clinical studies. Therefore, the Contractor shall develop a protocol for each clinical trial *and* non-clinical study funded under this contract and submit all such protocols and protocol amendments to the Contracting Officer's Representative (COR) for evaluation and comment. Approval by the COR is required before work under a protocol may begin. The COR comments will be forwarded to the Contractor within ten (10) business days. The Contractor must address, in writing, all concerns (*e.g.* study design, safety, regulatory, ethical, and conflict of interest) noted by the COR.

If the draft protocols are to be submitted to the FDA, BARDA review shall occur before submission, pursuant to the terms set forth by ARTICLE F.2 of this contract. The Contractor shall consider revising their protocols to address BARDA's concerns and recommendations prior to FDA submission. The Contractor must provide BARDA with a copy of FDA submissions, within the time frame set forth by ARTICLE F.2 of this contract.

Execution of clinical and non-clinical studies requires written authorization from the government. The USG will provide written authorization to the Contractor upon either 1) receiving documentation in which all COR comments have been satisfactorily addressed; or 2) receiving documentation that the FDA has reviewed and commented on the protocol.

The government shall have rights to all protocols, data resulting from execution of these protocols, and final reports funded by BARDA under this contract, as set forth in PART II of this contract and defined in the FAR. The government reserves the right to request that the Contractor provide any contract deliverable in a non-proprietary form to ensure the government has the ability to review and distribute the deliverables as the government deems necessary.

Important information regarding performing human subject research is available at http://www3.niaid.nih.gov/healthscience/clinicalstudies/.

Any updates to technical reports are to be addressed in the Monthly and Annual Progress Reports. The Contractor shall advise the Contracting Officer's Representative or designee in writing and via electronic communication in a timely manner of any issues potentially affecting contract performance.

1. Non-Clinical Terms of Award

These Non-Clinical Terms of Award detail an agreement between the Biomedical Advanced Research and Development Authority (BARDA) and the Contractor; they apply to all grants and contracts that involve non-clinical research.

a. Safety and Monitoring Issues

i. PHS Policy on Humane Care and use of Laboratory Animals

Before award and then with the annual progress report, the Contractor must submit to BARDA a copy of the current Institutional Animal Care and Use Committees (IACUC) documentation of continuing review and approval and the Office of Laboratory Animal Welfare (OLAW) federal wide assurance number for the institution or site.

If other institutions are involved in the research (e.g., a multicenter trial or study), each institution's IACUC must review and approve the protocol. They must also provide BARDA initial and annual documentation of continuing review and approval and federal wide assurance number.

The Contractor must ensure that the application, as well as all protocols, are reviewed by the performing institution's IACUC.

To help ensure the safety of animals used in BARDA-funded studies, the Contractor must provide BARDA copies of documents related to all major changes in the status of ongoing protocols, including the following:

- All amendments or changes to the protocol, identified by protocol version number, date, or both and date it is valid.
- All material changes in IACUC policies and procedures, identified by version number, date, and all required signatories (if applicable).
- Termination or temporary suspension of the study(ies) for regulatory issues.
- Termination or temporary suspension of the protocol.
- Any change that is made in the specific IACUC approval for the indicated study(ies).
- Any other problems or issues that could affect the scientific integrity of the study(ies), i.e., fraud, misrepresentation, misappropriation of funds, etc.

Contractor must notify BARDA of any of the above changes within five (5) working days from the time the Contractor becomes aware of such changes by email or fax, followed by a letter signed by the institutional business official, detailing notification of the change of status to the local IACUC and a copy of any responses from the IACUC.

If a non-clinical protocol has been reviewed by an institutional biosafety committee (IBC) or the NIH Recombinant DNA Advisory Committee (RAC), the Contractor must provide information about the initial and

ongoing review and approval, if any. See the NIH Guidelines for Research Involving Recombinant DNA Molecules.

ii. Non-Clinical Data and Safety Monitoring Requirements

BARDA strongly recommends continued safety monitoring for all non- clinical studies of investigational drugs, devices, or biologics. FDA expects non-clinical studies to include safety in addition to efficacy. The Contractor should consider evaluation of clinical relevant safety markers in the pivotal and non-pivotal, non-clinical studies. In preparation for clinical trials of licensed or not yet licensed products, it is imperative that BARDA- sponsored studies of any type measure the risk and safety parameters that are elicited and provide a safety profile from the studies for future human risk assessment.

A risk is minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research are not greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. For example, the risk of drawing a small amount of blood from a healthy subject for research purposes is no greater than the risk of doing so as part of a routine physical examination (45 CFR 46.102(i)).

BARDA will work with the Contractor on decisions regarding the type and extent of safety data accrual to be employed before the start of efficacy or safety studies.

The Contractor shall inform BARDA of any upcoming site visits and/or audits of CRO facilities funded under this effort. BARDA reserves the right to accompany the Contractor on site visits and/or audits of CRO's as BARDA deems necessary.

b. BARDA Review Process before Non-Clinical study Execution Begins

BARDA is under the same policy-driven assurances as NIH in that it has a responsibility to ensure that mechanisms and procedures are in place to protect the safety and welfare of animals used in BARDA-funded non-clinical trials.

Therefore, before study execution, the Contractor must provide the following (as applicable) for review and comment by BARDA:

- IACUC approved (signed) non-clinical research protocol identified by version number, date, or both, including details of study design, euthanasia criteria, proposed interventions, and exclusion criteria.
- For non-pivotal mouse studies, the Contractor will provide an annual animal care and use protocol.
- Documentation of IACUC approval, including OLAW federal wide number, IACUC registration number, and IACUC name.
- Contractor should reduce the number of animals required for a study using power of statistics.
- Plans for the management of side effects, rules for interventions and euthanasia criteria.

- Procedures for assessing and collecting safety data were appropriate.

- If a study is contracted through Contract Research Organizations (CROs), work orders and service agreements the Contractor shall assure an integrated safety documentation plan is in place for the study site, pharmacy service records on the dosing material to be used and excipients, and laboratory services (including histopathology).

- Documentation that the Contractor and all required staff responsible for the conduct of the research have received training in the protection and handling of animals, or that the CRO has the required documentation.

- Purchasing of animals and/or other supplies for non-clinical studies funded in part or in whole by BARDA requires written approval by the Contracting Officer in accordance with the contract. The Contractor must have the ability to return/re-sell animals, at purchase price, to distributor or a third part, in the event that the Contracting Officer Authorization is not granted.

- Provide justification for whether studies require good laboratory practice (GLP) conditions.

- Provide justification for whether studies will be classified as non- pivotal or pivotal studies.

Documentation of each of the above items shall be submitted to BARDA for evaluation and comment in conjunction with the protocol. Execution of non- clinical studies requires written authorization from the Contracting Officer in accordance with this section of the contract.

c. References

Public Health Service Policy on Humane Care and Use of Laboratory Animals: http://grants.nih.gov/grants/olaw/InvestigatorsNeed2Know.pdf

USDA Animal Welfare Act:

http://awic.nal.usda.gov/nal_display/index.php?info_center=3&tax_level=3&tax_subject=182&topic_id=1118&level3_id=6735&level4_id=0&level5_id=0&placement_default=0

2. Clinical Terms of Award

These Clinical Terms of Award detail an agreement between the government and the Contractor; they apply to all grants and contracts that involve clinical research.

i. Safety and Monitoring Issues

a. Institutional Review Board or Independent Ethics Committee Approval

Before award and then with the annual progress report, the Contractor must submit to BARDA a copy of the current IRB-or IEC-approved informed consent document, documentation of continuing review and approval and the OHRP federal wide assurance number for the institution or site.

If other institutions are involved in the research (e.g., a multicenter clinical trial or study), each institution's IRB or IEC must review and approve the protocol. They must also provide BARDA initial and annual documentation of continuing review and approval, including the current approved informed consent document and federal wide number.

The Contractor must ensure that the application as well as all protocols are reviewed by their IRB or IEC.

To help ensure the safety of participants enrolled in BARDA-funded studies, the Contractor must provide BARDA copies of documents related to all major changes in the status of ongoing protocols, including the following:

- All amendments or changes to the protocol, identified by protocol version number, date, or both and dates it is valid.
- All changes in informed consent documents, identified by version number, dates, or both and dates it is valid.
- Termination or temporary suspension of patient accrual.
- Termination or temporary suspension of the protocol.
- Any change in IRB approval.
- Any other problems or issues that could affect the participants in the studies.

The Contractor must notify BARDA through the COR and CO of any of the above changes within five (5) working days by email or fax, followed by a letter signed by the institutional business official, detailing notification of the change of status to the local IRB and a copy of any responses from the IRB or IEC.

If a clinical protocol has been reviewed by an institutional biosafety committee (IBC) or the NIH Recombinant DNA Advisory Committee (RAC), the Contractor must provide information about the initial and ongoing review and approval, if any. See the NIH Guidelines for Research Involving Recombinant DNA Molecules.

b. **Data and Safety Monitoring Requirements**

BARDA strongly recommends independent safety monitoring for clinical trials of investigational drugs, devices, or biologics; clinical trial of licensed products; and clinical research of any type involving more than minimal risk to volunteers. Independent monitoring can take a variety of forms. Phase III clinical trials must be reviewed by an independent data and safety monitoring board (DSMB); other trials may require DSMB oversight as well. The Contractor shall inform BARDA of any upcoming site visits and/or audits of CRO facilities funded under this effort.
BARDA reserves the right to accompany the Contractor on site visits and/or audits of CROs as BARDA deems necessary.

A risk is minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research and not greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. For examples, the risk of drawing a small amount of blood from a healthy individual for research purposes is no greater than the risk of doing so as part of a routine physical examination (45 CFR 46.102I).

Final decisions regarding the type of monitoring to be used must be made jointly by BARDA and the Contractor before enrollment starts. Discussions with the responsible BARDA Project Officer regarding appropriate safety monitoring and approval of the final monitoring plan by BARDA must occur before patient enrollment begins and may include discussions about the appointment of one of the following.

- **Independent Safety Monitor** – a physician or other appropriate expert who is independent of the study and available in real time to review and recommend appropriate action regarding adverse events and other safety issues.

- **Independent Monitoring Committee (IMC) or Safety Monitoring Committee (SMC)** – a small group of independent investigators and biostatisticians who review data from a particular study.

- **Data and Safety Monitoring Board** – an independent committee charged with reviewing safety and trial progress and providing advice with respect to study continuation, modification, and termination. The Contractor may be required to use an established BARDA DSMB or to organize an independent DSMB. All phase III clinical trials must be reviewed by a DSMB; other trials may require DSMB oversight as well. Please refer to: NIAID Principles for Use of a Data and Safety Monitoring Board (DSMB) For Oversight of Clinical Trials Policy

When a monitor or monitoring board is organized, a description of it, its charter or operating procedures (including a proposed meeting schedule and plan for review of adverse events), and roster and *curriculum vitae* from all members must be submitted to and approved by BARDA before enrollment starts. The Contractor will also ensure that the monitors and board members report any conflicts of interest and the Contractor will maintain a record of this. The Contractor will share conflict of interest reports with BARDA.

Additionally, the Contractor must submit written summaries of all reviews conducted by the monitoring group to the BARDA within thirty (30) days of reviews or meetings.

ii. BARDA Protocol Review Process Before Patient Enrollment Begins BARDA has a responsibility to ensure that mechanisms and procedures are in place to protect the safety of participants in BARDA-supported clinical trials. Therefore, before patient accrual or participant enrollment, the Contractor must ensure the following (as applicable) are in place at each participating institution, prior to patient accrual or enrollment:

- IRB- or IEC-approved clinical research protocol identified by version number, date, or both, including details of study design, proposed interventions, patient eligibility, and exclusion criteria.
- Documentation of IRB or IEC approval, including OHRP federal wide number, IRB or IEC registration number, and IRB and IEC name.
- IRB- or IEC- approved informed consent document, identified by version number, date, or both and dates it is valid.
- Plans for the management of side effects.
- Procedures for assessing and reporting adverse events.
- Plans for data and safety monitoring (see above) and monitoring of the clinical study site, pharmacy, and laboratory.
- Documentation that the Contractor and all study staff responsible for the design or conduct of the research have received training in the protection of human subjects.

Documentation to demonstrate that each of the above items are in place shall be submitted to the BARDA) for evaluation and comment in conjunction with the protocol. Execution of clinical studies requires written authorization from BARDA in accordance with this section of this contract.

iii Investigational New drug or Investigational Device Exemption Requirements

Consistent with federal regulations, clinical research projects involving the use of investigational therapeutics, vaccines, or other medical interventions (including licensed products and devices for a purpose other than that for which they were licensed) in humans under a research protocol must be performed under a Food and Drug Administration (FDA) investigational new drug (IND) or investigational device exemption (IDE).

Exceptions must be granted in writing by FDA. If the proposed clinical trial will be performed under an IND or IDE, the Contractor must provide BARDA with the name and institution of the IND or IDE sponsor, the date the IND or IDE was filed with FDA, the FDA IND or IDE number, any written comments from FDA, and the written responses to those comments.

Unless FDA notifies Contractor otherwise, The Contractor must wait thirty (30) calendar days from FDA receipt of an initial IND or IDE application before initiating a clinical trial.

The Contractor must notify BARDA if the FDA places the study on clinical hold and provide BARDA any written comments from FDA, written responses to the comments, and documentation in writing that the hold has been lifted.

The Contractor must not use grant or contract funds during a clinical hold to fund clinical studies that are on hold. The Contractor must not enter into any new financial obligations related to clinical activities for the clinical trial on clinical hold.

v. **Required Time-Sensitive Notification**

Under an IND or IDE, the sponsor must provide FDA safety reports of serious adverse events. Under these Clinical Terms of Award, the Contractor must submit copies to the responsible Contracting Officer's Representative (COR) as follows:

ii. Expedited safety report of unexpected or life-threatening experience or death:

A copy of any report of unexpected or life-threatening experience or death associated with the use of an IND drug, which must be reported to FDA by telephone or fax as soon as possible but no later than seven (7) days after the IND sponsor's receipt of the information, must be submitted to the COR within
24 hours of FDA notification.

iii. Expedited safety reports of serious and unexpected adverse experiences:

A copy of any report of unexpected and serious adverse experience associated with use of an IND drug or any finding from tests in laboratory animals that suggests a significant risk for human subjects, which must be reported in writing to FDA as soon as possible but no later than 15 day after the IND sponsor's receipt of the information, must be submitted to the COR within 24 hours of FDA notification.

iv. IDE reports of unanticipated adverse device effect:
A copy of any reports of unanticipated adverse device effect submitted to FDA must be submitted to the COR within 24 hours of FDA notification.

v. Expedited safety reports:
Sent to the COR concurrently with the report to FDA.

vi. Other adverse events documented during the course of the trial should be included in the annual IND or IDE report and reported to BARDA annually.

In case of problems or issues, the Contracting Officer's Representative will contact the Contractor within ten (10) working days by email or fax, followed within thirty (30) calendar days by an official letter to the Contractor's Project Manager, with a copy to the institutions' office of sponsored programs, listing issues and appropriate actions to be discussed.

vii. Safety reporting for research not performed under an IND or IDE.

Final decisions regarding ongoing safety reporting requirements for research not performed under an IND or IDE must be made jointly by the Contracting Officer's Representative and the Contractor.

ARTICLE H.2. CARE OF LIVE VERTEBRATE ANIMALS, HHSAR 352.270-5 (October 2009)

a. Before undertaking performance of any contract involving animal-related activities where the species is regulated by USDA, the Contractor shall register with the Secretary of Agriculture of the United States in accordance with 7 U.S.C. 2136 and 9 CFR sections 2.25 through 2.28. The Contractor shall furnish evidence of the registration to the Contracting Officer.

b. The Contractor shall acquire vertebrate animals used in research from a dealer licensed by the Secretary of Agriculture under 7 U.S.C. 2133 and 9 CFR Sections 2.1-2.11, or from a source that is exempt from licensing under those sections.

c. The Contractor agrees that the care, use and intended use of any live vertebrate animals in the performance of this contract shall conform with the Public Health Service (PHS) Policy on Humane Care of Use of Laboratory Animals (PHS Policy), the current Animal Welfare Assurance (Assurance), the Guide for the Care and Use of Laboratory Animals (National Academy Press, Washington, DC) and the pertinent laws and regulations of the United States Department of Agriculture (see 7 U.S.C. 2131 et seq. and 9 CFR Subchapter A, Parts 1-4). In case of conflict between standards, the more stringent standard shall govern.

d. If at any time during performance of this contract, the Contracting Officer determines, in consultation with the Office of Laboratory Animal Welfare (OLAW), National Institutes of Health (NIH), that the Contractor is not in compliance with any of the requirements and standards stated in paragraphs (a) through (c) above, the Contracting Officer may immediately suspend, in whole or in part, work and further payments under this contract until the Contractor corrects the noncompliance. Notice of the suspension may be communicated by telephone and confirmed in writing. If the Contractor fails to complete corrective action within the period of time designated in the Contracting Officer's written notice of suspension, the Contracting Officer may, in consultation with OLAW, NIH, terminate this contract in whole or in part, and the Contractor's name may be removed from the list of those contractors with approved Assurances.

Note: The Contractor may request registration of its facility and a current listing of licensed dealers from the Regional Office of the Animal and Plant Health Inspection Service (APHIS), USDA, for the region in which its research facility is located. The location of the appropriate APHIS Regional Office, as well as information concerning this program may be obtained by contacting the Animal Care Staff, USDA/APHIS, 4700 River Road, Riverdale, Maryland 20737 (E-mail: ace@aphis.usda.gov;W eb site: (http://www.aphis.usda.gov/animal_welfare).

ARTICLE H.3. ANIMAL WELFARE

All research involving live, vertebrate animals shall be conducted in accordance with the Public Health Service Policy on Humane Care and Use of Laboratory Animals. This policy may be accessed at:

http://grants1.nih.gov/grants/olaw/references/phspol.htm

ARTICLE H.4. INFORMATION ON COMPLIANCE WITH ANIMAL CARE REQUIREMENTS

Registration with the U. S. Dept. of Agriculture (USDA) is required to use regulated species of animals for biomedical purposes. USDA is responsible for the enforcement of the Animal Welfare Act (7 U.S.C. 2131 et. seq.), http://www.nal.usda.gov/awic/legislat/awa.htm.

The Public Health Service (PHS) Policy is administered by the Office of Laboratory Animal Welfare (OLAW) http://grants2.nih.gov/grants/olaw/olaw.htm. An essential requirement of the PHS Policy http://grants2.nih.gov/grants/olaw/references/phspol.htm is that every institution using live vertebrate animals must obtain an approved assurance from OLAW before they can receive funding from any component of the U. S. Public Health Service.

The PHS Policy requires that Assured institutions base their programs of animal care and use on the Guide for the Care and Use of Laboratory Animals http://www.nap.edu/readingroom/books/labrats/ and that they comply with the

regulations (9 CFR, Subchapter A)http://www.nal.usda.gov/awic/legislat/usdaleg1.htm issued by the U.S. Department of Agriculture (USDA) under the Animal Welfare Act. The Guide may differ from USDA regulations in some respects. Compliance with the USDA regulations is an absolute requirement of this Policy.

The Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) http://www.aaalac.org is a professional organization that inspects and evaluates programs of animal care for institutions at their request. Those that meet the high standards are given the accredited status. As of the 2002 revision of the PHS Policy, the only accrediting body recognized by PHS is the AAALAC. While AAALAC Accreditation is not required to conduct biomedical research, it is highly desirable. AAALAC uses the Guide as their primary evaluation tool. They also use the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching. It is published by the Federated of Animal Science
Societies http://www.fass.org.

ARTICLE H.5. REQUIREMENTS FOR ADEQUATE ASSURANCE OF PROTECTION OF VERTEBRATE ANIMAL SUBJECTS

The PHS Policy on Humane Care and Use of Laboratory Animals requires that applicant organizations proposing to use vertebrate animals file a written Animal Welfare Assurance with the Office for Laboratory Animal Welfare (OLAW), establishing appropriate policies and procedures to ensure the humane care and use of live vertebrate animals involved in research activities supported by the PHS. The PHS Policy stipulates that an applicant organization, whether domestic or foreign, bears responsibility for the humane care and use of animals in PHS- supported research activities. Also, the PHS policy defines “animal” as “any live, vertebrate animal used, or intended for use, in research, research training, experimentation, biological testing or for related purposes.” This Policy implements and supplements the U.S. government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training, and requires that institutions use the Guide for the Care and Use of Laboratory Animals as a basis for developing and implementing an institutional animal care and use program. This Policy does not affect applicable State or local laws or regulations that impose more stringent standards for the care and use of laboratory animals. All institutions are required to comply, as applicable, with the Animal Welfare Act as amended (7 USC 2131 et. seq.) and other Federal statutes and regulations relating to animals. These documents are available from the Office of Laboratory Animal Welfare, National Institutes of Health, Bethesda, MD 20892, (301) 496-7163. See http://grants.nih.gov/grants/olaw/olaw.htm.

No PHS supported work for research involving vertebrate animals will be conducted by an organization, unless that organization is operating in accordance with an approved Animal Welfare Assurance and provides verification that the Institutional Animal Care and Use Committee (IACUC) has reviewed and approved the proposed activity in accordance with the PHS policy. Applications may be referred by the PHS back to the institution for further review in the case of apparent or potential violations of the PHS Policy. No award to an individual will be made unless that individual is affiliated with an assured organization that accepts responsibility for compliance with the PHS Policy. Foreign applicant organizations applying for PHS awards for activities involving vertebrate animals are required to comply with PHS Policy or provide evidence that acceptable standards for the humane care and use of animals will be met. Foreign applicant organizations are not required to submit IACUC approval, but should provide information that is satisfactory to the USG to provide assurances for the humane care of such animals.

ARTICLE H.6. APPROVAL OF REQUIRED ASSURANCE BY OLAW

Under governing regulations, federal funds which are administered by the Department of Health and Human Services, Office of Biomedical Advanced Research and Development Authority (BARDA) shall not be expended by the Contractor for research involving live vertebrate animals,

nor shall live vertebrate animals be involved in research activities by the Contractor under this award unless a satisfactory assurance of compliance with 7 U.S.C. 2316 and 9 CFR Sections 2.25-2.28 is submitted within 30 days of the date of this award and approved by the Office of Laboratory Animal Welfare (OLAW). Each performance site (if any) must also assure compliance with 7 U.S.C. 2316 and 9 CFR Sections 2.25-2.28 with the following restriction: Only activities which do not directly involve live vertebrate animals (i.e. are clearly severable and independent from those activities that do involve live vertebrate animals) may be conducted by the Contractor or individual performance sites pending OLAW approval of their respective assurance of compliance with 7 U.S.C. 2316 and 9 CFR Sections 2.25-2.28. Additional information regarding OLAW may be obtained via the Internet at http://grants2.nih.gov/grants/olaw/references/phspol.htm

ARTICLE H.7. REPORTING MATTERS INVOLVING FRAUD, WASTE AND ABUSE

Anyone who becomes aware of the existence or apparent existence of fraud, waste and abuse in BARDA funded programs should report such matters to the HHS Inspector General's Office in writing or on the Inspector General's Hotline. The toll free number is 1-800-HHS-TIPS (1-800-447-8477). All telephone calls will be handled confidentially. The e-mail address is Htips@os.dhhs.gov and the mailing address is:

Office of Inspector General
Department of Health and Human Services TIPS HOTLINE
P.O. Box 23489 Washington, D.C. 20026

ARTICLE H.8. PROHIBITION ON CONTRACTOR INVOLVEMENT WITH TERRORIST ACTIVITIES

The Contractor acknowledges that U.S. Executive Orders and Laws, including but not limited to E.O. 13224 and P.L. 107-56, prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of the Contractor to ensure compliance with these Executive Orders and Laws. This clause must be included in all subcontracts issued under this contract.

ARTICLE H.9. IDENTIFICATION AND DISPOSITION OF DATA

The Contractor will be required to provide certain data generated under this contract to the Department of Health and Human Services (DHHS). DHHS reserves the right to review any other data determined by DHHS to be relevant to this contract. The contractor shall keep copies of all data required by the Food and Drug Administration (FDA) relevant to this contract for the time specified by the FDA.

ARTICLE H.10. EXPORT CONTROL NOTIFICATION

Contractors are responsible for ensuring compliance with all export control laws and regulations that may be applicable to the export of and foreign access to their proposed technologies.
Contractors may consult with the Department of State with any questions regarding the International Traffic in Arms Regulation (ITAR) (22 CRF Parts 120-130) and /or the Department of Commerce regarding the Export Administration Regulations (15 CRF Parts 730-774).

ARTICLE H.11. CONFLICT OF INTEREST

The Contractor represents and warrants that, to the best of the Contractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as defined in FAR 2.101 and Subpart 9.5, or that the Contractor has disclosed all such relevant information. Prior to commencement of any work, the Contractor agrees to notify the Contracting Officer promptly that, to the best of its knowledge and belief, no actual or potential conflict of interest exists or to identify to the Contracting Officer any actual or potential

conflict of interest the firm may have. In emergency situations, however, work may begin but notification shall be made within five (5) working days. The Contractor agrees that if an actual or potential organizational conflict of interest is identified during performance, the Contractor shall promptly make a full disclosure in writing to the Contracting Officer. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Contracting Officer, to avoid, mitigate, or neutralize the actual or potential conflict of interest. The Contractor shall continue performance until notified by the Contracting Officer of any contrary action to be taken. Remedies include termination of this contract for convenience, in whole or in part, if the Contracting Officer deems such termination necessary to avoid an organizational conflict of interest. If the Contractor was aware of a potential organizational conflict of interest prior to award or discovered an actual or potential conflict after award and did not disclose it or misrepresented relevant information to the Contracting Officer, the USG may terminate the contract for default, debar the Contractor from USG contracting, or pursue such other remedies as may be permitted by law or this contract.

ARTICLE H.12. INSTITUTIONAL RESPONSIBILITY REGARDING INVESTIGATOR FINANCIAL CONFLICTS OF INTEREST

The Contractor shall comply with the requirements of 45 CFR Part 94, Responsible Prospective Contractors, which promotes objectivity in research by establishing standards to ensure that Investigators (defined as the project director or principal Investigator and any other person, regardless of title or position, who is responsible for the design, conduct, or reporting of research funded under BARDA contracts, or proposed for such funding, which may include, for example, collaborators or consultants) will not be biased by any Investigator financial conflicts of interest.

If the failure of an Investigator to comply with an Institution's financial conflicts of interest policy or a financial conflict of interest management plan appears to have biased the design, conduct, or reporting of the BARDA-funded research, the Contractor must promptly notify the Contracting Officer of the corrective action taken or to be taken. The Contracting Officer will consider the situation and, as necessary, take appropriate action or refer the matter to the Contractor for further action, which may include directions to the Contractor on how to maintain appropriate objectivity in the BARDA-funded research project.

The Contracting Officer and/or HHS may inquire at any time before, during, or after award into any Investigator disclosure of financial interests, and the Contractor’s review of, and response to, such disclosure, regardless of whether the disclosure resulted in the Contractor’s determination of a financial conflict of interests. The Contracting Officer may require submission of the records or review them on site. On the basis of this review of records or other information that may be available, the Contracting Officer may decide that a particular financial conflict of interest will bias the objectivity of the BARDA-funded research to such an extent that further corrective action is needed or that the Institution has not managed the financial conflict of interest in accordance with 4 5 C F R Part 94. The issuance of a Stop Work Order by the Contracting Officer may be necessary until the matter is resolved.

If the Contracting Officer determines that BARDA-funded clinical research, whose purpose is to evaluate the safety or effectiveness of a drug, medical device, or treatment, has been designed, conducted, or reported by an Investigator with a financial conflict of interest that was not disclosed managed or reported the Contractor shall require the Investigator involved to disclose the financial conflict of interest in each public presentation of the results of the research and to request an addendum to previously published presentations.

ARTICLE H.13. NEEDLE DISTRIBUTION

The Contractor shall not use contract funds to carry out any program of distributing sterile needles or syringes for the hypodermic injection of any illegal drug.

ARTICLE H.14. RESTRICTION ON ABORTIONS

The Contractor shall not use contract funds for any abortion.

ARTICLE H.15. CONTINUED BAN ON FUNDING OF HUMAN EMBRYO RESEARCH

The Contractor shall not use contract funds for (1) the creation of a human embryo or embryos for research purposes; or (2) research in which a human embryo or embryos are destroyed, discarded, or knowingly subjected to risk of injury or death greater than that allowed for research on fetuses in utero under 45 CFR 46.204(b) and Section 498(b) of the Public Health Service Act (42 U.S.C. 289g(b)). The term "human embryo or embryos" includes any organism, not protected as a human subject under 45 CFR 46 as of the date of the enactment of this Act, that is derived by fertilization, parthenogenesis, cloning, or any other means from one or more human gametes or human diploid cells.

Additionally, in accordance with a March 4, 1997 Presidential Memorandum, Federal funds may not be used for cloning of human beings.

ARTICLE H.16. DISSEMINATION OF FALSE OR DELIBERATELY MISLEADING INFORMATION

The Contractor shall not use contract funds to disseminate information that is deliberately false or misleading.

ARTICLE H.17. CONFIDENTIALITY OF INFORMATION

a. Confidential information, as used in this article, means information or data of a personal nature about an individual or proprietary information or data submitted by or pertaining to an institution or organization.

b. The Contracting Officer and the Contractor may, by mutual consent, identify elsewhere in this contract specific information and/or categories of information which the USG will furnish to the Contractor or that the Contractor is expected to generate which is confidential and providing further that the government is not entitled to unlimited rights to that information pursuant to FAR 52.227-14. Similarly, the Contracting Officer and the Contractor may, by mutual consent, identify such confidential information from time to time during the performance of the contract. Failure to agree will be settled pursuant to the "Disputes" clause.

c. If it is established elsewhere in this contract that information to be utilized under this contract, or a portion thereof, is subject to the Privacy Act, the Contractor will follow the rules and procedures of disclosure set forth in the Privacy Act of 1974, 5 U.S.C. 552a, and implementing regulations and policies, with respect to systems of records determined to be subject to the Privacy Act.

d. Confidential information, as defined in paragraph (a) of this article, shall not be disclosed without the prior written consent of the individual, institution, or organization.

e. Whenever the Contractor is uncertain with regard to the proper handling of material under the contract, or if the material in question is subject to the Privacy Act or is confidential information subject to the provisions of this article, the Contractor should obtain a written determination from the Contracting Officer prior to any release, disclosure, dissemination, or publication.

f. The provisions of paragraph (d) of this article shall not apply to conflicting or overlapping provisions in other Federal, State or local laws.

ARTICLE H.18. ACCESS TO DOCUMENTATION/DATA

The USG shall have physical and electronic access to all documentation and data generated under this contract, including: all data documenting Contractor performance; all data generated; all communications and correspondence with regulatory agencies and bodies to include all audit observations, inspection reports, milestone completion documents, and all Offeror commitments and responses. Contractor shall provide the USG with an electronic copy of all correspondence with the FDA within 5 business days of receipt. The USG shall acquire unlimited rights to all data funded under this contract in accordance with FAR Subpart 27.4 and FAR Clause 52.227-14.

ARTICLE H.19. EPA ENERGY STAR REQUIREMENTS

In compliance with Executive Order 12845 (requiring Agencies to purchase energy efficient computer equipment), all microcomputers, including personal computers, monitors, and printers that are purchased using USG funds in performance of a contract shall be equipped with or meet the energy efficient low-power standby feature as defined by the EPA Energy Star program unless the equipment always meets EPA Energy Star efficiency levels. The microcomputer, as configured with all components, must be Energy Star compliant.

This low-power feature must already be activated when the computer equipment is delivered to the agency and be of equivalent functionality of similar power managed models. If the equipment will be used on a local area network, the vendor must provide equipment that is fully compatible with the network environment. In addition, the equipment will run commercial off-the-shelf software both before and after recovery from its energy conservation mode.

ARTICLE H.20. ACKNOWLEDGMENT OF FEDERAL FUNDING

Section 507 of P.L. 104-208 mandates that Contractors funded with Federal dollars, in whole or in part, acknowledge Federal funding when issuing statements, press releases, requests for proposals, bid solicitations and other documents. This requirement is in addition to the continuing requirement to provide an acknowledgment of support and disclaimer on any publication reporting the results of a contract funded activity.

A. Publication and Publicity

No information related to data obtained under this contract shall be released or publicized without providing BARDA with at least thirty (30) days advanced notice and an opportunity to review the proposed release or publication.

In addition to the requirements set forth in HHSAR Clause 352.227-70, Publications and Publicity incorporated by reference in SECTION I of this contract, Section 507 of P.L. 104-208 mandates that Contractors funded with Federal dollars, in whole or in part, acknowledge Federal funding when issuing statements, press releases, requests for proposals, bid solicitations and other documents. Contractors are required to state:

(1) the percentage and dollar amounts of the total program or project costs financed with Federal money and;
(2) the percentage and dollar amount of the total costs financed by nongovernmental sources

For purposes of this contract "publication" is defined as an issue of printed material offered for distribution or any communication or oral presentation of information, including any manuscript or scientific meeting abstract. Any publication containing data generated under this contract must be submitted for BARDA review no less than thirty (30) calendar days for manuscripts and fifteen (15) calendar days for abstracts before

submission for public presentation or publication. Contract support shall be acknowledged in all such publications substantially as follows:

"This project has been funded in whole or in part with Federal funds from the Department of Health and Human Services; Office of the Assistant Secretary for Preparedness and Response; Biomedical Advanced Research and Development Authority, under Contract No. HHSO100201500007C."

B. Press Releases

Misrepresenting contract results or releasing information that is injurious to the integrity of BARDA may be construed as improper conduct. Press releases shall be considered to include the public release of information to any medium, excluding peer-reviewed scientific publications. The contractor shall ensure that the COR has received an advance copy of any press release related to the contract not less than six (6) business days prior to the issuance of the press release.

The Contractor shall acknowledge the support of the Department of Health and Human Service, Office of the Assistant Secretary for Preparedness and Response, Biomedical Advanced Research and Development Authority, whenever publicizing the work under this contract in any media by including an acknowledgment substantially as follows:

"This project has been funded in whole or in part with Federal funds from the Department of Health and Human Services; Office of the Assistant Secretary for Preparedness and Response; Biomedical Advanced Research and Development Authority, under Contract No. HHSO100201500003C."

ARTICLE H.21. IN-PROCESS REVIEW

In Process Reviews (IPR) will be conducted at the discretion of the USG to discuss the progression of the milestones. The USG reserves the right to revise the milestones and budget pending the development of the project. Deliverables such as an overall project summary report and/or slides will be required when the IPRs are conducted. The Contractor's success in completing the required tasks under each work segment must be demonstrated through the Deliverables and Milestones specified under SECTION F. Those deliverables will constitute the basis for the USG's decision, at its sole discretion, to proceed with the work segment, or institute changes to the work segment, or terminate the work segment.

IPRs may be scheduled at the discretion of the USG to discuss progression of the contract. The Contractor shall provide a presentation following a prescribed template which will be provided by the USG at least 30 business days prior to the IPR. Subsequently, the contractor will be requested to provide a revised/final presentation to the Contracting Officer at least 10 business days prior to the IPR.

ARTICLE H.22. PROHIBITION ON THE USE OF APPROPRIATED FUNDS FOR LOBBYING ACTIVITIES AND HHSAR 352.203-70 ANTI-LOBBYING (March 2012))

The Contractor is hereby notified of the restrictions on the use of Department of Health and Human Service's funding for lobbying of Federal, State and Local legislative bodies.

Section 1352 of Title 10, United Stated Code (Public Law 101-121, effective 12/23/89), among other things, prohibits a recipient (and their subcontractors) of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds (other than profits from a federal contract) to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of

Congress in connection with any of the following covered Federal actions; the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement. For additional information of prohibitions against lobbying activities, see FAR Subpart 3.8 and FAR Clause 52.203-12.

In addition, as set forth in HHSAR 352.203-70 “Anti-Lobbying” (March 2012)), the current Department of Health and Human Services Appropriations Act provides that no part of any appropriation contained in this Act shall be used, other than for normal and recognized executive-legislative relationships, for publicity or propaganda purposes, for the preparation, distribution, or use of any kit, pamphlet, booklet, publication, radio, television, or video presentation designed to support, or defeat legislation pending before the Congress, or any State or Local legislature except in presentation to the Congress, or any State or Local legislative body itself.

The current Department of Health and Human Services Appropriations Act also provides that no part of any appropriation contained in this Act shall be used to pay the salary or expenses of any contract or grant recipient, or agent acting for such recipient, related to any activity designed to influence legislation or appropriations pending before the Congress, or any State or Local legislature.

ARTICLE H.23. PRIVACY ACT APPLICABILITY

1) Notification is hereby given that the Contractor and its employees are subject to criminal penalties for violation of the Privacy Act to the same extent as employees of the USG. The Contractor shall assure that each of its employees knows the prescribed rules of conduct and that each is aware that he or she can be subjected to criminal penalty for violation of the Act.
   A copy of 45 CFR Part 5b, Privacy Act Regulations, may be obtained at http://www.gpoaccess.gov/cfr/index.html

2) The Project Officer is hereby designated as the official who is responsible for monitoring contractor compliance with the Privacy Act.

3) The Contractor shall follow the Privacy Act guidance as contained in the Privacy Act System of Records number 09-25-0200. This document may be obtained at the following link: http://oma.od.nih.gov/ms/privacy/pa-files/0200.htm

ARTICLE H.24. LABORATORY LICENSE REQUIREMENTS

The Contractor shall comply with all applicable requirements of Section 353 of the Public Health Service Act (Clinical Laboratory Improvement Act as amended) (42 U.S.C. 263a and 42 CFR Part 493). This requirement shall also be included in any subcontract for services under the contract.

ARTICLE H.25. QUALITY ASSURANCE (QA) AUDIT REPORTS

BARDA reserves the right to participate in QA audits. Upon completion of the audit/site visit the Contractor shall provide a report capturing the findings, results and next steps in proceeding with the subcontractor. If action is requested of the subcontractor, detailed concerns for addressing areas of non-conformance to FDA regulations for GLP, GMP, or GCP guidelines, as identified in the audit report, must be provided to BARDA. The Contractor shall provide responses from the subcontractors to address these concerns and plans for corrective action execution.

- Contractor shall notify CO and COR of upcoming, ongoing, or recent audits/site visits of subcontractors as part of weekly communications
- Contractor shall notify the COR and CO within 5 business days of report completion.

ARTICLE H.26. BARDA AUDITS

Contractor shall accommodate periodic or ad hoc site visits by the USG. If the USG, the Contractor, or other parties identifies any issues during an audit, the Contractor shall capture the issues, identify potential solutions, and provide a report to the USG.

- If issues are identified during the audit, Contractor shall submit a report to the CO and COR detailing the finding and corrective action(s) within 10 business days of the audit.
- COR and CO will review the report and provide a response to the Contractor with 10 business days.
- Once corrective action is completed, the Contractor will provide a final report to the CO and COR.

ARTICLE H.27. SECURITY REPORTING REQUIREMENT

Violations of established security protocols shall be reported to the Contracting Officer (CO) and Contracting Officer's Representative (COR) upon discovery and within 24 hours of any compromise, intrusion, loss or interference of its security processes and procedures. The Contractor shall ensure that all software components that are not required for the operation and maintenance of the database/control system has been removed and/or disabled. The Contractor shall provide to the CO and the COR information appropriate to Information and Information Technology software and service updates and/or workarounds to mitigate all vulnerabilities associated with the data and shall maintain the required level of system security.

The Contractor will investigate violations to determine the cause, extent, loss or compromise of sensitive program information, and corrective actions taken to prevent future violations. The Contracting Officer in coordination with BARDA will determine the severity of the violation. Any contractual actions resulting from the violation will be determined by the Contracting Officer.

ARTICLE H.28. RESTRICTION ON EMPLOYMENT OF UNAUTHORIZED ALIEN WORKERS

The Contractor shall not use contract funds to employ workers described in section 274A (h) (3) of the Immigration and National Act, which reads as follows:

"(3) Definition of unauthorized alien – As used in this section, the term 'unauthorized alien' with respect to the employment of an alien at a particular time, that the alien is not at that time either (A) an alien lawfully admitted for permanent residence, or (B) authorized to be so employed by this Act or by the Attorney General."

ARTICLE H.29. NOTIFICATION OF CRITICAL PROGRAMMATIC CONCERNS, RISKS, OR POTENTIAL RISKS

If any action occurs that creates a cause for critical programmatic concern, risk, or potential risk to BARDA or the Contractor and Incident Report shall be delivered to BARDA.

- Within 48 hours of activity or incident or within 24 hours for a security related activity or incident, Contractor must notify BARDA.
- Additional updates due to COR and CO within 48 hours of additional developments.
- Contractor shall submit within 5 business days a Corrective Action Plan (if deemed necessary by either party) to address any potential issues.

If corrective action is deemed necessary, Contractor must address in writing, its consideration of concerns raised by BARDA within 5 business days.

ARTICLE H.30. PUBLIC READINESS AND EMERGENCY PREPARDENESS ACT ("PREP ACT")

Effective December 3, 2014 the Secretary of the Department of Health and Human Services has issued a declaration pursuant to section 319F-3 of the Public Health Service Act (42 U.S.C. 247d- 6d) to provide liability protection for activities related to Ebola Virus Disease Vaccines consistent with the terms of the declaration. GlaxoSmithKline (GSK Code Name GSK3390107A) "Recombinant Replication Deficient Chimpanzee Adenovirus Type 3-Vectored Ebola Zaire Vaccine", is named in the declaration as a covered countermeasure, and as such the Government shall provide liability protection for activities related to GSK3390107A, consistent with the terms of the declaration.

ARTICLE H.31. PERSON IN PLANT

With seven (7) business days advance notice to the Contractor in writing from the Contracting Officer, the USG may place a person-in-plant in the Contractor's or subcontractor's facility, who shall be subject to the Contractor's or subcontractor's policies and procedures regarding security and facility access at all times while in the facility.

An article substantially similar to this Person-in-Plant article shall be incorporated into any subcontract for experimental or manufacturing work.

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

ARTICLE I.1. FAR 52.252-2, CLAUSES INCORPORATED BY REFERENCE (FEBRUARY 1998)

This contract incorporates the following clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.
Also, the full text of a clause may be accessed electronically at these addresses:
https://www.acquisition.gov/FAR/ . HHSAR Clauses
at: http://www.hhs.gov/policies/hhsar/subpart352.html .

FEDERAL ACQUISIITON REGULATION (48 CFR CHAPTER 1) CLAUSE:

52.242-15, Stop Work Order (August 1989)

Clauses for Cost-Reimbursement Research and Development Contract

(1) FEDERAL ACQUISITION REGULATION (FAR) (48 CFR CHAPTER 1) CLAUSES:

FAR CLAUSE	DATE	CLAUSE TITLE
52.202-1	Nov 2013	Definitions
52.203-3	Apr 1984	Gratuities
52.203-5	May 2014	Covenant Against Contingent Fees
52.203-6	Sep 2006	Restrictions on Subcontractor Sales to the government
52.203-7	May 2014	Anti-Kickback Procedures
52.203-8	May 2014	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity
52.203-10	May 2014	Price or Fee Adjustment for Illegal or Improper Activity
52.203-12	Oct 2010	Limitation on Payments to Influence Certain Federal Transactions
52.203-13	Apr 2010	Contractor Code of Business Ethics and Conduct
52.203-17	April 2014	Contractor Employee Whistleblower Rights and Requirements to Inform Employees of Whistleblower rights
52.204-4	May 2011	Printed or Copied Double-Sided on Recycled Paper
52.204-7	Jul 2013	System for Award Management
52.204-10	Jul 2013	Reporting Executive Compensation and First-Tier Subcontract Awards
52.204-13	Jul 2013	System for Award Management Maintenance

52.209-6	Aug 2013	Protecting the government's Interests When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment
52.209-9	Jul 2013	Updates of Publicly Available Information Regarding Responsibility Matters
52.210-1	Apr 2011	Market Research
52.215-2	Oct 2010	Audit and Records – Negotiation
52.215-8	Oct 1997	Order of Precedence - Uniform Contract Format
52.215-10	Aug 2011	Price Reduction for Defective Certified Cost or Pricing Data
52.215-12	Oct 2010	Subcontractor Certified Cost or Pricing Data
52.215-15	Oct 2010	Pension Adjustments and Asset Reversions
52.215-17	Oct 1997	Facilities Capital Cost of Money
52.215-18	Jul 2005	Reversion or Adjustment of Plans for Post-Retirement Benefits (PRB) other than Pensions
52.215-19	Oct 1997	Notification of Ownership Changes
52.215-21	Oct 2010	Requirements for Certified Cost or Pricing Data and Data Other Than Certified Cost or Pricing Data – Modifications
52.215-23	Oct 2009	Limitations on Pass-Through Charges
52.216-7	Jun 2013	Allowable Cost and Payment
52.216-8	Jun 2011	Fixed Fee
52.217-8	Nov 1999	Option to Extend Services
52.219-8	May 2014	Utilization of Small Business Concerns
52.222-2	Jan 2011	Payment for Overtime Premiums
52.222-3	Jun 2003	Convict Labor
52.222-21	Feb 1999	Prohibition of Segregated Facilities
52.222-26	Mar 2007	Equal Opportunity
52.222-35	Jul 2014	Equal Opportunity for Veterans
52.222-36	Jul 2014	Equal Opportunities for Workers with Disabilities
52.222-37	Jul 2014	Employment Reports on Veterans
52.222-40	Dec 2010	Notification of Employee Rights Under the National Labor Relations Act
52.222-50	Feb 2009	Combating Trafficking in Persons
52.222-54	Aug 2013	Employment Eligibility Verification
52.223-6	May 2001	Drug-Free Workplace
52.223-18	Aug 2011	Encouraging Contractor Policies to Ban Text Messaging While Driving

52.224-1	April 1984	Privacy Act Notification
52.224-2	April 1984	Privacy Act
52.225-13	Jun 2008	Restrictions on Certain Foreign Purchases
52.227-1	Dec 2007	Authorization and Consent, Alternate I
52.227-2	Dec 2007	Notice and Assistance Regarding Patent and Copyright Infringement
52.227-3	April 1984	Patent Indemnity
52.227-11	May 2014	Patent Rights - Ownership by the Contractor (Note: In accordance with FAR 27.303(b)(2), paragraph (e) is modified to include the requirements in FAR 27.303(b)(2)(i) through (iv). The frequency of reporting in (i) is annual.)
52.227-14	May 2014	Rights in Data – General
52.227-16	Jun 1987	Additional Data Requirements
52.232-9	Apr 1984	Limitation on Withholding of Payments
52.232-17	May 2014	Interest
52.232-20	Apr 1984	Limitation of Cost
52.232-23	May 2014	Assignment of Claims
52.232-25	Jun 2013	Prompt Payment Alternate I (Feb 2002)
52.232-33	Jul 2013	Payment by Electronic Funds Transfer--System for Award Management
52.233-1	Jul 2002	Disputes
52.233-3	Aug 1996	Protest After Award, Alternate I (June 1985)
52.233-4	Oct 2004	Applicable Law for Breach of Contract Claim
52.242-1	Apr 1984	Notice of Intent to Disallow Costs
52.242-3	May 2014	Penalties for Unallowable Costs
2.242-4	Jan 1997	Certification of Final Indirect Costs
52.242-13	Jul 1995	Bankruptcy
52.243-2	Aug 1987	Changes - Cost Reimbursement, Alternate V (Apr 1984)
52.244-2	Oct 2010	Subcontracts, Alternate I (Jun 2007)
52.244-5	Dec 1996	Competition in Subcontracting
52.244-6	Oct 2014	Subcontracts for Commercial Items
52.245-1	Apr 2012	Government Property
52.245-9	Apr 2012	Use and Charges
52.246-9	May 2001	Inspection of Research and Development (Short Form)

52.246-23	Feb 1997	Limitation of Liability
52.246-25	Feb 1997	Limitation of Liability – Services
52.247-63	Jun 2003	Preference for U.S.-Flag Air Carriers
52.247-67	Feb 2006	Submission of Transportation Documents for Audit
52.249-6	May 2004	Termination (Cost-Reimbursement)
52-249-14	Apr 1984	Excusable Delays
52.251-1	Apr 2012	Government Supply Sources
52.253-1	Jan 1991	Computer Generated Forms

(2) DEPARTMENT OF HEALTH AND HUMAN SERVICES ACQUISITION REGULATION (HHSAR) (48 CFR CHAPTER 3) CLAUSES:

HHSAR CLA USE NO.	DATE	TITLE
352.201-70	Jan 2006	Paperwork Reduction Act
352.202-1	Jan 2006	Definitions, with Alternate paragraph (h)
352.203-70	Mar 2012	Anti-Lobbying
352.216-70	Jan 2006	Additional Cost Principles
352.222-70	Jan 2010	Contractor Cooperation in Equal Employment Opportunity Investigations
352.223-70	Jan 2006	Safety and Health
352.224-70	Jan 2006	Privacy Act
352.227-70	Jan 2006	Publications and Publicity
352.228-7	Dec 1991	Insurance - Liability to Third Persons
352.231-70	Aug 2012	Salary Rate Limitation
352.231-71	Jan 2001	Pricing of Adjustments
352.233-71	Jan 2006	Litigation and Claims
352.242-70	Jan 2006	Key Personnel
352.242-73	Jan 2006	Withholding of Contract Payments
352.242-74	Apr 1984	Final Decisions on Audit Findings
352.270-4	Jan 2006	Protection of Human Subjects

ARTICLE I.2. ADDITIONAL CONTRACT CLAUSES

This contract incorporates the following clauses by reference, with the same force and effect, as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

a. FEDERAL ACQUISITION REGULATION (FAR) (48 CFR CHAPTER 1) CLAUSES

ARTICLE I.3. ADDITIONAL FAR CLAUSES INCLUDED IN FULL TEXT

FAR 52.217-9 Option to Extend the Term of the Contract

OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The government may extend the term of this contract by written notice to the Contractor within 15 days of the date the contract expires; provided that the government gives the Contractor a preliminary written notice of its intent to extend at least 60 days before the contract expires. The preliminary notice does not commit the government to an extension.

(b) If the government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including base contract and the exercise of any options under this clause, shall not exceed twenty-eight (28) months.

FAR 52.219-1 Small Business Program Representations

SMALL BUSINESS PROGRAM REPRESENTATIONS (OCT 2014)

(b) (1) The North American Industry Classification System (NAICS) code for this acquisition is 541711.

(2) The small business size standard is 500 employees.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(c) Representations.

(1) The offeror represents as part of its offer that it [X] is, [ ] is not a small business concern.
(2) The offeror represents as part of its offer that it [ ] is, [X] is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.
(3) The offeror represents as part of its offer that it [ ] is, [X] is not a woman-owned small business concern.

FAR 52.219-28, Post-Award Small Business Program Representation

POST-AWARD SMALL BUSINESS PROGRAM REPRESENTATION (JUL 2013)

(a) Definitions . As used in this clause--

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern means a concern, including its affiliates, which is independently owned and operated, not dominant in the field of operation in which it is bidding on government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall represent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts--

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and
(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) The Contractor shall represent its size status in accordance with the size standard in effect at the time of this representation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at http://www.sba.gov/contractingopportunities/officials/size/index.html .

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the representation required by paragraph (b) of this clause by validating or updating all its representations in the Online Representations and Certifications Application and its data in the Central Contractor Registration, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting office in writing within the timeframes specified in paragraph (b) of this clause that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in ORCA, or does not have a representation in ORCA for the NAICS code applicable to this contract, the Contractor is required to complete the following representation and submit it to the contracting office, along with the contract number and the date on which the representation was completed:

The Contractor represents that it [] is, [X] is not a small business concern under NAICS Code 541711 assigned to contract number HHSO100201500007C.

FAR 52.232-40, Providing Accelerated Payment to Small Business Subcontractors

PROVIDING ACCELERATED PAYMENT TO SMALL BUSINESS SUBCONTRACTORS (DEC 2013)

(a) Upon receipt of accelerated payments from the government, the contractor shall make accelerated payments to its small business subcontractors under this contract, to the maximum extent practicable and prior to when such payment is otherwise required under the applicable contract or subcontract after receipt of a proper invoice and all other required documentation from the small business subcontractor.

(b) The acceleration of payments under this clause does not provide any new rights under the Prompt Payment Act.

(c) Include the substance of this clause, including this paragraph (c), in all subcontracts with small business concerns, including subcontracts with small business concerns for the acquisition of commercial items.

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

The following documents are attached and incorporated in this contract:

1. Statement of Work, dated March 27, 2015 (16 pages).
2. Milestones and Deliverables Chart (4 pages)
3. Manufacturing Chart (1 page)
4. High-level Gantt Chart (2 pages)
5. Invoice/Financing Request Instructions and Contract Financial Reporting Instructions for Cost-Reimbursement Type Contracts (5 pages).
6. Financial Report of Individual Project/Contract (1 page)
7. Instructions for Completing Financial Report of Individual Project/Contract (3 pages)
8. 7 Principles of Earned Value Management Tier 2 System Implementation Intent Guide (26 pages)

PART IV - REPRESENTATIONS AND INSTRUCTIONS

SECTION K - REPRESENTATIONS AND CERTIFICATIONS

The following documents are incorporated by reference in this contract:

1. Annual Representations and Certifications completed and located at the System for Award Management website (SAM.gov).

2. Animal Welfare Assurance – No Animal Studies will be conducted at BioCryst facilities. Animal Welfare Assurance Numbers will be procured from any subcontractors.

End of Contract No. HHSO100201500007C

ATTACHMENT 1
Statement of Work HHSO100201500007C
March 27, 2015
BCX4430 NDA Enabling CMC and Non-Clinical Toxicology Studies

PREAMBLE

Independently and not as an agent of the Government, the Contractor shall furnish all the necessary services, qualified personnel, material, equipment, and facilities, not otherwise provided by the Government as needed to perform the Statement of Work submitted in response to the BARDA Broad Agency Announcement (BAA) CBRN-BAA-10-100-SOL-00013.

The Government reserves the right to modify the milestones, progress, schedule, budget, or deliverables to add or delete deliverables, process, or schedules if the need arises. Because of the nature of this research and development (R&D) contract and the complexities inherent in this and prior programs, at designated milestones the Government will evaluate whether work should be redirected, removed, or whether schedule or budget adjustments should be made.

OVERALL OBJECTIVES AND SCOPE

The overall objective of this contract is to advance the development of BCX4430, a novel small molecule nucleoside with broad spectrum antiviral activity being developed for diseases caused by RNA pathogens. BCX4430, an inhibitor of viral RNA – dependent RNA polymerase (RdRp), is the lead compound in our broad- spectrum antiviral program to meet the need for a parenteral, direct-acting antiviral medical countermeasure (MCM) having efficacy across multiple viruses. The scope of work for this contract includes preclinical and manufacturing development activities that fall into the following areas: manufacturing of clinical trial material, manufacturing process improvements and development, non-clinical toxicology studies; and all associated regulatory, quality assurance, management, and administrative activities. The proposed activities take into account the Ebola virus disease (EVD) outbreak in West Africa. The R&D effort will contribute toward an NDA filing for BCX4430. Overall, this Statement of Work (SOW) focuses on:

- Drug substance (DS) and drug product (DP) manufacturing process development activities that will be conducted at US based facilities, which will result in the ability to consistently produce high quality, cGMP compliant material and deliver drug supply that could be available for deployment as a medical countermeasure during the Ebola crisis and support future clinical and non-clinical studies

- Nonclinical development activities to advance the intramuscular (IM) and intravenous (IV) formulation through NDA-enabling toxicology including * * * and * * * studies in the * * *

1 BASE: MANUFACTURE OF CLINICAL TRIAL MATERIAL

Duration: 18 months

Drug Substance and Drug Product cGMP manufacturing by US suppliers to support non-clinical and clinical activities. Drug Substance will be produced following an * * * starting with * * *, which will be used as the GMP starting material to produce BCX4430.

The primary objectives will be to

- Produce * * * batches of BCX4430 drug substance following * * *.
- Conduct drug product process improvements that will be focused on validation of analytical methods, stress testing, stability studies, and process design space optimization

1.1. Procurement of Starting Materials

The contractor shall procure the starting materials to produce * * * of the current manufacturing process of BCX4430. The key starting materials to be procured are * * * and * * *.

1.1.1. Procurement of Starting Materials to produce * * * batches of * * *

The contractor shall procure * * * and * * * for the manufacture of * * * of * * * to support a * * * campaign (WBS 1.4.1 and 1.4.2) and a * * * batch of BCX4430 (Clinical Trial Material Batch * * * WBS1.7.1)

1.2. Further Process Improvements of * * *

The contractor shall conduct further process improvements that may be identified focused on improving the existing plant-scale processes following generally the same * * * .

1.2.1 Conduct Process Improvements

The contractor shall conduct the process improvements with existing plant-scale processes.

1.2.2 Determination that Process is Sufficient to move to Commercial Scale up

The contractor shall evaluate the processes developed and provide sufficient information through a deliverable that will enable BARDA to determine that the processes are sufficient to move to commercial scale –up activities.

1.3. Manufacture of * * * at * * *

The contractor shall produce * * * of * * * will be utilized as the starting material for the manufacture of BCX4430 in accordance with cGMP guidance.

1.3.1. Manufacture of * * * of * * * (Batch * * *)

The contractor shall produce * * * of * * * using the existing process at * * * .

1.3.2. Manufacture of * * * of * * * (Batch * * *)

The contractor shall produce * * * of * * * using the existing process at * * * .

1.4. Manufacturing Campaign of BCX4430

The contractor shall produce * * * of BCX4430 at * * * in compliance with cGMP.

1.4.1. Manufacturing of * * * of cGMP BCX4430 (DS Batch * * *)

The contractor shall produce and release * * * of cGMP BCX4430 * * * .

1.4.2. Manufacturing of * * * of cGMP BCX4430 (DS Batch * * *)

The contractor shall produce and release * * * of cGMP BCX4430 * * * .

1.4.3. Prepare a Campaign Summary Report

The contractor shall prepare a campaign summary report of the manufacture and release of DS Batches * * * .

1.4.4. Drug Substance Stability Studies

The contractor shall place samples from DS Batch * * * of BCX4430 on a * * * stability program at * * * and a

* * * accelerated stability study at * * * .

Table 1. BCX4430 Drug Substance Stability Study Sampling Points

Test ID	Months									
	0	**1**	**3**	**6**	**9**	**12**	**18**	**24**	**48**	**60**
A	X	X	X	X	X	X	X	X	X	X
B	X	X	X	X	X	X	X	X	X	X
C	X	X	X	X	X	X	X	X	X	X
D	X	X	X	X	X	X	X	X	X	X
E	X	X	X	X	X	X	X	X	X	X
F	X	X		X		X	X	X	X	X
G	X	X		X		X	X	X	X	X

NOTE: BARDA will only cover stability activities for * * * . Table 2. BCX4430 Drug Substance Stability Tests

Test ID	Test
A	* * *
B	* * *
C	* * *
D	* * *
E	* * *
F	* * *
G	* * *

1.5. Drug Product Development

The contractor shall conduct drug product process improvements that will be focused on validation of analytical methods, stress testing, stability studies, and process design space optimization.

The contractor shall conduct formulation development activities and produce a sterile, parenteral formulation containing * * * of the active compound per unit in compliance with cGMP guidance. Initial development efforts will be focused on delivering a * * * that tolerates terminal sterilization and provides an acceptable stability profile to support a * * * shelf life. Additionally, studies to include: * * * will be conducted to evaluate the feasibility of * * * .

1.5.1. Stress Conditions Studies

The contractor shall conduct a series of experiments under conditions outlined in ICH guidance to evaluate the stability of the drug product made from available drug substance.

1.5.2. Design Space Studies

The contractor shall conduct studies to evaluate and define the design space of the formulation process.

1.5.3. Analytical Method Validation

The contractor shall conduct analytical methods validation or qualification as listed in the table below.

Table 3. BCX4430 Drug Product Methods that will be Validated or Qualified

Test	Method and Objective
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *
* * *	* * *

1.5.4. Prepare Process Development Report for DP

The contractor shall prepare a process development report summarizing the experiments and results of the studies conducted to define the process and evaluate the formulation.

1.5.5. Pre-formulation and Physicochemical Properties Studies

The contractor shall conduct studies to determine the physicochemical properties of the drug substance and identify potential formulations and primary packaging for an IM injection based on stability and ability to be produced on manufacturing lines.

1.5.6. Feasibility Runs

The contractor shall conduct small-scale, nonGMP manufacturing runs of potential formulations and formats.

1.5.7. Extractable/Leachable Study

The contractor shall conduct studies to determine drug product stability in primary packaging and of syringe types that will be used for delivery.

1.5.8. Excipient Compatibility Studies for IV Formulation from IM

The contractor shall conduct studies to evaluate the compatibility of the IM formulation added to various standard IV fluids.

1.6. Manufacturing of Drug Product to Support Clinical Trials

The contractor shall produce * * * batches of approximately * * * of drug product suitable for clinical trial use. The drug product will produced from the * * * cGMP DS Batches * * * (WBS 1.4.1 and 1.4.2)

1.6.1. Manufacture of Clinical Trial Material (CTM Batch * * *)

The contractor shall produce approximately * * * per cGMP for use in clinical trials.

1.6.2. Manufacture of Clinical Trial Material (CTM Batch * * *)

The contractor shall produce approximately * * * per cGMP for use in clinical trials.

1.6.3. Prepare a Campaign Summary Reports

The contractor shall prepare a campaign summary report of the manufacture and release of CTM * * * .

1.6.4. Drug Product Stability Studies

The contractor shall place drug product on stability based on the following conditions:

Table 4. BCX4430 Drug Product Stability Testing Conditions and Sampling

Stability Conditions	Configuration	Test Points
* * *	* * *	* * *
* * *	* * *	* * *
* * *	* * *	* * *

NOTE: BARDA will only cover stability activities for * * *

Table 5. BCX4430 Drug Product Stability Tests

Test
* * *
* * *
* * *
* * *
* * *
* * *
* * *
* * *

1.6.5. Comparability Study

The contractor shall conduct comparability studies evaluating drug substance produced by * * * and * * * , and the subsequently produced drug product, will be conduct per FDA Guidance. These studies will evaluate: in- process checks, impurity profiles, release testing results, and stability profiles at standard and accelerated conditions to ensure the material produced by both manufacturers is substantially comparable.

1.7. Manufacture of Additional Supply

That contractor shall produce * * * of BCX4430 based on * * * facility and subsequently produce * * * of drug product at * * * suitable for clinical trial use.

1.7.1. Manufacturing of * * * cGMP BCX4430 (DS Batch * * *)

The contractor shall produce * * * of cGMP BCX4430 from * * * .

1.7.2. Prepare a Campaign Summary Report

The contractor shall prepare a campaign summary report of the manufacture and release of * * * .

1.7.3. Manufacturing of approximately * * * (CTM Batch * * *)

The contractor shall produce approximately * * * of cGMP BCX4430 drug product using drug substance from the * * * cGMP BCX4430 (DS Batch * * * , WBS 1.7.1).

1.7.4. Prepare a Campaign Summary Report

The contractor shall prepare a campaign summary report of the manufacture and release of CTM Batches * * *

1.7.5. Stability Studies for DS and DP

The contractor shall conduct drug substance and drug product stabilities for the DS and DP manufactured in from the * * * of cGMP BCX4430 drug substance based on * * * (WBS 1.6).

NOTE: BARDA will only cover stability activities for * * *

1.7.6. Comparability Studies

The contractor shall conduct comparability studies evaluating drug substance produced by * * * and both process at * * * , and the subsequently produced drug product, will be conduct per FDA Guidance. These studies will evaluate: in-process checks, impurity profiles, release testing results, and stability profiles at standard and accelerated conditions to ensure the material produced by both manufacturers and both * * * process are substantially comparable.

2 OPTION 1: COMMERCIAL SCALE UP AND NDA REGISTRATION BATCHES

Duration: * * *

Go/No Go Criteria to Initiate: WBS 1.2.2 BARDA approval of process developed
Through optimization of manufacturing processes, BARDA will evaluate and determine what process should be sufficient to initiate commercial scale up activities in this Option. This Option will add value to the project through conducting manufacturing regulatory activities that will be needed for future product approval with the FDA.

Decision Criteria:

. * * *

. * * *

The objective is to produce DS registration batches from the qualified process, * * * . This will be determined upon the conclusion of the DS development effort being undertaken by BioCryst and funded by NIAID that is scheduled to conclude in December 2015. Additionally during this stage, the DP manufacturing process would be finalized for the commercial presentation and registration batches produced.

2.1. Procurement

The contractor shall procure the * * * starting materials needed to produce BCX4430.

2.1.1. Procurement of * * *

The contractor shall qualify a vendor(s) to produce the * * * and procure enough material to support the manufacture of * * * batches of BCX4430 drug substance.

2.1.2. Procurement of * * *

The contractor shall qualify a vendor(s) to produce the * * * and procure enough material to support the manufacture of * * * batches of BCX4430 drug substance.

2.2. Drug Substance Process Scale-up

The contractor shall conduct process development work targeting a * * * that can be scaled to plant equipment. This work will include: development of a * * * through lab scale studies, process hazard evaluation including RC-1 and digital scanning calorimetry, lab scale qualification runs, pilot plant scale-up technical batches, necessary modifications to analytical methods based on the * * * , and plant-scale registration runs.

2.2.1 Further Process Improvements of Final Route

The contractor shall conduct further process improvements that may be identified focused on improving the * *

* to be scaled up. The * * * will be based either * * * .

2.2.2 Process Hazard Evaluation

The contractor shall conduct process hazard evaluation studies needed for the scale-up of the optimized process into the plant.

2.2.3 Scale-up Technical Run

The contractor shall conduct a nonGMP manufacturing run at plant-scale to ensure the safety and output of the optimized process.

2.2.4 Analytical Method Development and Qualification

The contractor shall modify, add to, revalidate, or requalify the analytical methods.

2.2.5 Prepare Process Development Report

The contractor shall prepare a process development report describing the experiments and results leading to the selection of the optimized manufacturing process

2.3 Manufacture of cGMP Drug Substance Registration Batches

The contractor shall produce * * * cGMP batches of BCX4430 following the * * * at a scale comparable to the estimated commercial scale.

2.3.1 Manufacture of DS Batch (DS Batch * * *)

The contractor shall manufacture a batch of cGMP BCX4430 at plant scale.

2.3.2 Manufacture of DS Batch (DS Batch * * *)

The contractor shall manufacture a batch of cGMP BCX4430 at plant scale.

2.3.3 Manufacture of DS Batch (DS Batch * * *)

The contractor shall manufacture a batch of cGMP BCX4430 at plant scale.

2.3.4 Prepare Campaign Summary Report

The contractor shall prepare a report summarizing the conduct, observations, and results of the manufacturing of DS Batches * * * .

2.4 Drug Product Registration Batches

The contractor shall produce * * * drug product lots at * * * that will be used as the NDA registration batches.

2.4.1 Manufacture of DP Registration (DPR Batch * * *)

The contractor shall manufacture a NDA registration batch of cGMP BCX4430 drug product at a scale at least * * * the estimated commercial scale.

2.4.2 Manufacture of DP Registration (DPR Batch * * *)

The contractor shall manufacture a NDA registration batch of cGMP BCX4430 drug product at a scale at least * * * the estimated commercial scale.

2.4.3 Manufacture of DP Registration (DPR Batch * * *)

The contractor shall manufacture a NDA registration batch of cGMP BCX4430 drug product at a scale at least * * * the estimated commercial scale.

2.4.4 Prepare campaign summary report

The contractor shall prepare a report summarizing the conduct, observations, and results of the manufacturing of DPR Batches * * * .

2.5 Stability studies for DS and DP

The contractor shall conduct drug substance and drug product stabilities as described in Table 2 and Table 3 .

NOTE: BARDA will only cover stability activities for * * *

2.6 Comparability study

The contractor shall conduct comparability studies evaluating drug substance produced for clinical trials in the base period versus the NDA registration batches manufactured via * * * in Option 1, and the subsequently produced drug product, will be conduct per FDA Guidance. These studies will evaluate: in-process checks, impurity profiles, release testing results, and stability profiles at standard and accelerated conditions to ensure the material produced by both processes is substantially comparable.

3 OPTION 2: NONCLINICAL NDA-ENABLING TOXICOLOGY - IM

Duration: * * *

Go/No Go Criteria to Initiate: WBS 1.4.1 Completion of Manufacture cGMP BCX4430 (* * * campaign DS Batch * * *)

Through completion of manufacturing of this Drug substance Batch * * * , then there will be material to conduct further regulatory activities such as the IM non-clinical NDA-enabling toxicology studies in this option. This Option will add value to the project through conducting additional non-clinical activities that will support a potential future NDA.

Decision Criterion:

- * * *
- * * *

The contractor shall perform nonclinical GLP studies of IM BCX4430 to characterize * * *

3.1. GLP * * * Toxicology – IM

The contractor shall for each toxicology study develop the protocol, select and qualify the vendor, conduct in life and recovery phases and analyze study data resulting in a final study report.

Studies include:

3.1.1. Conduct GLP * * * IM toxicology study - * * *

3.1.2. Conduct GLP * * * IM general toxicology study - * * *

3.2. * * * toxicology - IM

The contractor shall for each * * * study segment develop the protocol, select and qualify the vendor, conduct in life and recovery phases and analyze study data resulting in a final study report.

Studies include:

3.2.1. Conduct * * * assessment in * * *

3.2.2. Conduct * * * Dose Range Finding Studies in the * * *

3.2.3. Conduct Definitive * * * toxicology in the * * *

3.2.4. Conduct * * * toxicology * * *

3.3. Nonclinical ADME - IM

The contractor shall procure radiolabeled BCX4430. In addition for each ADME study, the contractor shall develop the protocol, select and qualify the vendor, conduct the study and analyze study data resulting in a final study report. Studies include:

3.3.1. Conduct Radiolabeled ADME study - * * *

3.3.2. Conduct Radiolabeled ADME – * * *

A listing of the proposed studies for the nonclinical NDA-enabling toxicology studies for the IM formulation is provided.

Table 6 Nonclinical NDA-enabling Toxicology Studies for an IM formulation

Study #	Description	Objective(s)	Species (N)
	GLP * * * IM general toxicology	* * *	* * *
	GLP * * * IM general toxicology	* * *	* * *
	* * * assessment	* * *	* * *
	* * * Dose Range Finding	* * *	* * *
	* * * Dose Range Finding	* * *	* * *
	Definitive * * * toxicology	* * *	* * *
	Definitive * * * toxicology	* * *	* * *
	* * * toxicology	* * *	* * *
	Radiolabeled ADME	Determine the absorption, distribution, metabolism and excretion of the test article following IM dosing	* * *
	Radiolabeled ADME	Determine the absorption, metabolism and excretion of the test article following IM dosing	* * *

4 OPTION 3: *IN VITRO* EXPERIMENTS – IV

Duration: * * *

Go/No Go to Initiate: WBS 1.5.8 Completion of Excipient compatibility studies for IV formulation Through completion of IV formulation studies, it will be determined what excipients are appropriate for IV
formulation to then continue with toxicology studies of the IV formulation under this Option. This Option will add value to determine if there is any identified toxicology in *in vitro* assays before moving to animal studies in Option 4.

Decision Criterion:

. * * *

4.1. * * * – IV

The contractor shall develop the protocol, select and qualify the vendor, conduct the experiments and analyze the data resulting in a study report.

4.2. Conduct * * * Test – IV

The contractor shall develop the protocol, select and qualify the vendor, conduct the experiment and analyze the data resulting in a study report.

A listing of the proposed experiments for the *in vitro* experiments to be conducted in advance of the nonclinical NDA-enabling toxicology studies for the IV formulation is provided Table 7 .

Table 7 In vitro Experiments - IV

Study #	Description	Objective(s)	Species (N)
	* * *	* * *	* * *
	* * *	* * *	* * *

4.3 Study Report on all in vitro assays

The contractor shall submit a summarized study report with data and conclusions from all in vitro experiments conducted in table 7 to determine whether there is any toxicology before advancing into non-clinical NDA enabling toxicology studies (Option 5).

5 OPTION 4: NONCLINICAL NDA-ENABLING TOXICOLOGY - IV

Duration: * * *

Go/No Go Criteria to Initiate: WBS 4.3 Study Report on all *in vitro* assays

Through completion of the IV *in vitro* toxicology studies with the IV formulation conducted in Option 3 and summarized in WBS 4.3, it will be determined if the IV formulation is safe to move into non-clinical toxicology animal studies in this Option. This Option will add value to the project through conducting additional non- clinical activities that will support a potential future NDA.

Decision Criterion:

- * * *
- * * *

5.1. GLP * * * Toxicology – IV

The contractor shall for each toxicology study develop the protocol, select and qualify the vendor, conduct in life and recovery phases and analyze study data resulting in a final study report. Studies include:

5.1.1. Conduct GLP * * * IV general toxicology study - * * *

5.1.2. Conduct GLP * * * IV toxicology study - * * *

5.2. * * * toxicology - IV

The contractor shall for each *** study segment develop the protocol, select and qualify the vendor, conduct in life and recovery phases and analyze study data resulting in a final study report. Studies include:

5.2.1. Conduct * * * assessment in * * *

5.2.2. Conduct * * * Dose Range Finding Studies in the * * *

5.2.3. Conduct Definitive * * * toxicology in the * * *

5.2.4. Conduct * * * Developmental toxicology * * *

A listing of the proposed studies for the nonclinical NDA-enabling toxicology studies for the IV formulation is provided in Table 8

Table 8. Nonclinical NDA-enabling Toxicology Studies for an IV Formulation

Study #	Description	Objective(s)	Species (N)
	GLP * * * IV general toxicology	* * *	* * *
	GLP * * * IV general toxicology	* * *	* * *
	* * * assessment	* * *	* * *
	* * * Dose Range Finding	* * *	* * *
	* * * Dose Range Finding	* * *	* * *

	Definitive * * * toxicology	* * *	* * *
	Definitive * * * toxicology	* * *	* * *
	* * * Developmental toxicology	* * *	* * *

6 PROGRAM MANAGEMENT

The contractor shall provide all expertise needed for the implementation of the activities to be performed under this contract, including: research, manufacturing, regulatory, clinical, statistical analyses, management and administrative activities.

6.1. Technical and Project Management Support

The contractor shall appoint a Principal Investigator (PI) who will be responsible for all aspects of project performance and communication with the BARDA.

The contractor shall provide project management that will ensure day-to-day monitoring and tracking of progress and timelines, the coordination of project activities and costs incurred.

The contractor shall provide all managerial and administrative functions necessary for overall planning, monitoring, and implementing activities for the completion of the strategic product development plan.

The contractor shall provide for all necessary legal affairs required to ensure the timely acquisition of all proprietary rights, including intellectual property rights and all materials needed to perform the project, as well as reporting to the Government all inventions made in the performance of the project.

6.2. Subcontractor Management

The contractor shall provide for tracking, coordination and oversight of subcontractor efforts and manage communications with subcontractors.

6.3. Risk Management

The contractor shall identify project risks, develop risk management strategies and implement mitigation actions.

6.4. Earned Value Management (EVM)

The contractor shall provide EVM information.

6.5. Project Communications

The contractor shall provide for project communications including communications with BARDA and external experts.

The contractor shall provide planning and steps required for the conduct of contract review meetings.

7 REGULATORY

The contractor shall ensure adherence to FDA regulations and guidance, including requirements for the conduct of animal studies and assays under GLP, the manufacturing of the therapeutic product under cGMP, and the conduct of clinical trials under GCP standards.

7.1. Regulatory Authority Interactions

The contractor shall prepare and submit documentation and correspondence to regulatory authorities as required. The contractor shall request and conduct meetings with regulatory authorities to ensure the development program is conducted in accordance with regulatory guidelines and expectations.

7.2. Quality Assurance

The contractor shall maintain quality assurance documentation. The contractor shall arrange for audits of subcontractor facilities to ensure all planned procedures comply with the FDA regulations and guidance that are required to meet GLP, cGMP and GCP standards. In addition, the contractor shall ensure that all contractor and/or subcontractor records and staff are available for site visits or audits.

7.3. Expert Collaborations

The contractor shall collaborate with experts in the field in the design of experiments and studies that support the advancement of the development program.

ATTACHMENT 2
MILESTONE AND DELIVERABLES CHART MARCH 27, 2015
HHSO100201500007C

WBS	Milestone	Deliverable	Success Criteria	Timing	Go/No-Go for initiation
CLIN 0001 - MANUFACTURE OF CLINICAL TRIAL MATERIAL					
1.2.1	Process Improvements Report	Report on Process Development	Process Developed	* * *	
1.2.2	Determination of Sufficient Process for Commercial Scale up	Evaluation report	BARDA approval of developed process	* * *	N/A
1.3.2	Manufacture * * * (Batch * * *)	* * *	Acceptable quality and yield	* * *	N/A
1.4.1	Manufacture cGMP BCX4430 (* * * campaign DS Batch * * *)	BCX4430 DS CofA,	Acceptable quality and yield	* * *	N/A
1.4.2	Manufacture cGMP BCX4430 (* * * campaign DS Batch * * *)	BCX4430 DS CofA,	Acceptable quality and yield	* * *	N/A
1.4.3	Prepare a Campaign Summary Reports	Campaign Reports (DS Batches * * *)	Completion of DS Campaigns	* * *	N/A
1.4.4	Drug substance stability study	Initial Report on stability activities	Stability data	* * *	
1.5	Drug Product Development	DP Process Development Report (WBS 1.5.4) Pre-formulation and Physicochemical Report (WBS1.5.5) Extractable/Leachable Report (WBS 1.5.7)	Completion of Studies	* * *	N/A
1.5.8	Excipient Compatibility Report for IV Formulation	Compatibility Report	IV formulation completed	* * *	
1.6.1	Manufacture cGMP DP (CTM Batch * * *)	BCX4430 DP CofA,	Acceptable quality and yield	* * *	Accepted GMP DS
1.6.2	Manufacture cGMP DP (CTM Batch * * *)	BCX4430 DP CofA,	Acceptable quality and yield	* * *	Accepted GMP DS
1.6.3	Prepare a Campaign Summary Reports	Campaign Reports (CTM Batches * * *)	Completion of DP Campaigns	* * *	N/A

1.6.4	Drug Product stability study	Initial Report on stability activities	Stability Data	* * *	
1.6.5	Comparability Study	Comparability Protocol and Report	Completion of DS and DP Campaigns	* * *	
1.7.1	Manufacture cGMP BCX4340 (* * * campaign DS Batch * * *)	BCX4430 DS CofA	Acceptable DS process	* * *	N/A
1.7.2	Prepare a Campaign Summary Report	Campaign Reports (DS Batch* * *)	Completion of DS Campaign	* * *	N/A
1.7.2	Manufacture cGMP DP (CTM Batch * * *)	BCX4430 DP CofA,	Acceptable quality and yield	* * *	Accepted GMP DS
1.7.4	Prepare a Campaign Summary Report	Campaign Report (CTM Batches * * *)	Completion of DS Campaigns	* * *	N/A
1.7.5	Drug Substance and Drug Product stability study	Initial report on stability activities	Stability Data	* * *	Manufacture of 1.7.1 drug substance and 1.7.2 drug product
1.7.6	Comparability Study	Comparability Protocol and Report	Comparable DS and DP profiles	* * *	N/A
CLIN 0002 – COMMERCIAL SCALE UP AND NDA REGISTRATION BATCHES Go/No Go Criteria to Initiate: WBS 1.2.2 BARDA approval of process developed					
2.2	Drug Substance Process Scale-up	Process Development Report (WBS 2.2.4)	Selection of the optimized manufacturing process	* * *	* * * process
2.3.1	Manufacture BCX4340 DS (DS Registration Batch * * *)	BCX4430 Registration DS CofA	Acceptable quality and yield	* * *	* * * process
2.3.2	Manufacture BCX4340 DS (DS Registration Batch * * *)	BCX4430 Registration DS CofA,	Acceptable quality and yield	* * *	* * * process
2.3.3	Manufacture BCX4340 DS (DS Registration Batch * * *)	BCX4430 Registration DS CofA,	Acceptable quality and yield	* * *	* * * process
2.3.4	Prepare a Campaign Summary Report	Campaign Reports (DS Batches * * *)	Completion of DS Campaign	* * *	N/A
2.4.1	Manufacture BCX4430 DP (DP Registration Batch * * *)	BCX4430 DP CofA,	Acceptable quality and yield	* * *	Accepted GMP DS
2.4.2	Manufacture BCX4430 DP (DP Registration Batch * * *)	BCX4430 DP CofA,	Acceptable quality and yield	* * *	Accepted GMP DS

2.4.3	Manufacture BCX4430 DP (DP Registration Batch * * *)	BCX4430 DP CofA,	Acceptable quality and yield	* * *	Accepted GMP DS
2.4.4	Prepare a Campaign Summary Report	Campaign Report (CTM Registration Batches * * *)	Completion of DS Campaigns	* * *	N/A
2.5	Drug substance and Drug Product stability study	Report on stability activities	Stability Data	* * *	
2.6	Comparability Study	Comparability Protocol and Report	Comparable DS and DP profiles	* * *	Accepted GMP DS
CLIN 0003 – NONCLINICAL NDA-ENABLING TOXICOLOGY - IM Go/No Go Criteria to Initiate: WBS 1.4.1 Completion of Manufacture cGMP BCX4430 (* * *campaign DS Batch * * *)					
3.1.1	Complete GLP * * * IM Tox Study - * * *	Study Report	Established NOAEL	* * *	Drug Substance confirming to release criteria
3.1.2	Complete GLP * * * IM Tox Study - * * *	Study Report	Established NOAEL	* * *	Drug Substance confirming to release criteria
3.2.1	Conduct * * * assessment in * * *	Study Report	No significant findings	* * *	N/A
3.2.2	Conduct * * * Dose Range Finding Studies in the * * *	Study Report	No significant findings	* * *	N/A
3.2.3	Conduct Definitive * * * toxicology in the * * *	Study Report	No significant findings	* * *	N/A
3.2.4	Conduct * * * toxicology * * *	Study Report	No significant findings	* * *	N/A
3.3.1	Conduct Radiolabeled ADME study - * * *	Study Report	Characterize drug disposition	* * *	Acceptable Radiolabel Material
3.3.2	Conduct Radiolabeled ADME – * * *	Study Report	Characterize drug disposition	* * *	Acceptable Radiolabel Material
CLIN 0004 – IN VITRO EXPERIMENTS – IV Go/No Go to Initiate: WBS 1.5.8 Completion of Excipient compatibility studies for IV formulation					
4.1.	Conduct * * * Test – IV	Study Report	No effect on * * *	* * *	IV formulation WBS 1.5.8
4.2.	Conduct * * * Test – IV	Study Report	No effect on * * *	* * *	N/A
4.3	* * * IV experiments	Study report on all * * *assays with recommendation to proceed CLIN0005	No toxicology * * *	* * *	
CLIN 0005 – NONCLINICAL NDA-ENABLING TOXICOLOGY – IV Go/No Go to Initiate: WBS 4.3 Completion of * * * IV toxicology studies					

5.1.1	Complete GLP * * *IV Tox Study - * * *	Study Report	Established NOAEL	* * *	Drug Substance confirming to release criteria
5.1.2	Complete GLP * * * IV Tox Study - * * *	Study Report	Established NOAEL	* * *	Drug Substance confirming to release criteria
5.2.1	Conduct * * * assessment in * * *	Study Report	No significant findings	* * *	N/A
5.2.2	Conduct * * * Dose Range Finding Studies in the * * *	Study Report	No significant findings	* * *	N/A
5.2.3	Conduct Definitive * * * toxicology in the * * *	Study Report	No significant findings	* * *	N/A
5.2.4	Conduct * * * toxicology * * *	Study Report	No significant findings	* * *	N/A

ATTACHMENT 3
BCX4430 MANUFACTURING SUMMARY MARCH 2 , 2015

Starting Material	DS Campaign	CMO	DS Process Desc	DS Timing	DP Campaign	DP Timing	Use	Funding
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
	* * *	* * *		* * *	* * *		* * *	* * *
* * *	* * *	* * *	* * *	* * *	* * *		* * *	* * *
* * *	* * *	* * *		* * *	* * *		* * *	* * *
* * *	* * *	* * *		* * *	* * *	* * *	* * *	* * *
* * *	* * *	* * *		* * *	* * *	* * *	* * *	* * *
	* * *	* * *		* * *	* * *	* * *	* * *	* * *
* * *	* * *	* * *		* * *	* * *	* * *	* * *	* * *
* * *	* * *	* * *	* * *	* * *	* * *		* * *	* * *
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
	* * *	* * *		* * *	* * *	* * *	* * *	* * *
	* * *	* * *		* * *	* * *	* * *	* * *	* * *
* * *								

ATTACHMENT 4
HIGH-LEVEL GANTT CHART MARCH 27, 2015

*** * ***

All activities covered under this BioCryst contract will provide merit and value to the Government by ensuring that funding supported under the Base period results in progress towards several activities to ensure moving the BioCryst BCX4430 compound through the development pipeline for future FDA approval. This activities include manufacturing clinical trial material to be used in clinical trials as an urgent need to the Ebola epidemic in west Africa (Base), commercial scale up and manufacturing of registration batches, a regulatory approval requirement (Option 1), non-clinical toxicology studies of the IM formulation to support NDA regulatory requirements (Option 2) and non-clinical toxicology studies of the IV formulation first in vitro (Option 3) and then in animals (Option 4) to support NDA regulatory requirements. BioCryst's ability to complete three critical GO/NO GO contract milestones in the Base period will determine whether to exercise any follow-on option phases to continue supporting development of the compound.

There are 4 decision points which will trigger advancement to Options.

1. Trigger 1 (for start of Option 1): Further optimization processes for manufacturing will be developed under the WBS 1.2.1 and then BioCryst will evaluate the processes developed and provide sufficient information through deliverable WBS 1.2.2 that will enable BARDA to determine that the processes are sufficient to move to commercial scale –up activities (milestone WBS1.2.2, July 2015), and then Option 1 can begin. In Option 1, the process developed in WBS 1.2 and other processes being developed to manufacture the BCX4430 compound will be evaluated, such that BioCryst can select a process of most value to the Government to generate * * * drug substance registration batches that will then be used to make * * * drug product registration batches at a scale at least * * * the estimated commercial scale which is a regulatory requirement for qualifying a GMP process for manufacturing.
2. Trigger 2 (for start of Option 3): In preparation for manufacturing clinical trial (drug product)

material from the drug substance manufactured in the Base, the contractor will conduct formulation activities for both Intramuscular (IM) and intravenous (IV) administration. These formulations will then be applied to the generation of drug product (clinical trial material) in the remainder of the base. However, once an IV formulation is determined as compatible (WBS 1.5.8, July 2015) then preliminary toxicology studies *in vitro* of this formulation can be initiated in Option 3 (in Vitro experiments- IV) before moving in to animal toxicology studies (Option 4).

3. Trigger 3 (for start of Option 2): In order to conduct further regulatory activities to support NDA activities, toxicology experiments will need to be conducted with the IM formulation in
animals. However, drug product is needed for these studies. As soon as some of the drug substance material is manufactured in the base period (WBS 1.4.1,January 2016), then some of this material can be utilized for conducting these non-clinical animal toxicology studies in Option 2, a NDA regulatory requirement.
4. Trigger 4 (for start of Option 4): In order to proceed with conducting further regulatory activities to support NDA activities for the IV formulation, toxicology experiments will need to be conducted in animals. However, this can only proceed if the preliminary toxicology studies performed *in vitro*, as evaluated in the *in vitro* study report (WBS 4.3, March 2016), demonstrate that the IV formulation is safe.

ATTACHMENT 5

INVOICE/FINANCING REQUEST AND CONTRACT FINANCIAL
REPORTING INSTRUCTIONS FOR COST-REIMBURSEMENT TYPE CONTRACTS

Format: Payment requests shall be submitted on the Contractor's self-generated form in the manner and format prescribed herein and as illustrated in the Sample Invoice/Financing Request. Standard Form 1034, Public Voucher for Purchases and Services Other Than Personal, may be used in lieu of the Contractor's self-generated form provided it contains all of the information shown on the Sample Invoice/Financing Request. DO NOT include a cover letter with the payment request.

Number of Copies: Payment requests shall be submitted in the quantity specified in the Invoice Submission Instructions in Section B of the Contract.

Frequency: Payment requests should not be submitted more frequently than once every two weeks in accordance with the Allowable Cost and Payment Clause incorporated into this contract unless otherwise instructed by the Contract Officer. Small business concerns may submit invoices/financing requests more frequently than every two weeks when authorized by the Contracting Officer.

Cost Incurrence Period: Costs incurred must be within the contract performance period or covered by previously established pre contract cost provisions.

Billing of Costs Incurred: If billed costs include (1) costs of a prior billing period, but not previously billed, or (2) costs incurred during the contract period and claimed after the contract period has expired, the Contractor shall cite the amount(s) and month(s) in which it incurred such costs.

Contractor's Fiscal Year: Payment requests shall be prepared in such a manner that the Government can identify costs claimed with the Contractor's fiscal year.

Currency: All contracts are expressed in United States dollars. When the Government pays in a currency other than United States dollars, billings shall be expressed, and payment by the Government shall be made, in that other currency at amounts coincident with actual costs incurred. Currency fluctuations may not be a basis of gain or loss to the Contractor. Notwithstanding the above, the total of all invoices paid under this contract may not exceed the United States dollars authorized.

Costs Requiring Prior Approval: Costs requiring the Contracting Officer's approval, which are not set forth in an Advance Understanding in the contract, shall be identified and reference the Contracting Officer's Authorization (COA) Number. In addition, the Contractor shall show any cost set forth in an Advance Understanding as a separate line item on the payment request.

Invoice/Financing Request Identification: Each payment request shall be identified as either:

(a) **Interim Invoice/Contract Financing Request:** These are interim payment requests submitted during the contract performance period.

(b) **Completion Invoice:** The completion invoice shall be submitted promptly upon completion of the work, but no later than one year from the contract completion date, or within 120 days after settlement of the final indirect cost rates covering the year in which the contract is physically complete (whichever date is later). The Contractor shall submit the completion invoice when all costs have been assigned to the contract and it completes all performance provisions.

(c) **Final Invoice:** A final invoice may be required after the amounts owed have been settled between the Government and the Contractor (e.g., resolution of all suspensions and audit exceptions).

Preparation and Itemization of the Invoice/Financing Request: The Contractor shall furnish the information set forth in the instructions below. The instructions are keyed to the entries on the Sample Invoice/Financing Request.

(a) **Designated Billing Office Name and Address:** Enter the designated billing office name and address, as identified in the Invoice Submission Instructions in Section B and F of the Contract Schedule.

(b) **Contractor's Name, Address, Point of Contact, VIN, and DUNS or DUNS+4 Number:** Show the Contractor's name and address exactly as they appear in the contract, along with the name, title, phone number, and e-mail address of the person to notify in the event of an improper invoice or, in the case of payment by method other than Electronic Funds

Transfer, to whom payment is to be sent. Provide the Contractor's Vendor Identification Number (VIN), and Data Universal Numbering System (DUNS) number or DUNS+4. The DUNS number must identify the Contractor's name and address exactly as stated on the face page of the contract. When an approved assignment has been made by the Contractor, or a different payee has been designated, provide the same information for the payee as is required for the Contractor (i.e., name, address, point of contact, VIN, and DUNS).

(c) **Invoice/Financing Request Number:** Insert the appropriate serial number of the payment request.

(d) **Date Invoice/Financing Request Prepared:** Insert the date the payment request is prepared.

(e) **Contract Number and Order Number (if applicable):** Insert the contract number and order number (if applicable).

(f) **Effective Date:** Insert the effective date of the contract or if billing under an order, the effective date of the order.

(g) **Total Estimated Cost of Contract/Order:** Insert the total estimated cost of the contract, exclusive of fixed-fee. If billing under an order, insert the total estimated cost of the order, exclusive of fixed-fee.

(h) **Total Fixed-Fee:** Insert the total fixed-fee (where applicable).

(i) **Two-Way/Three-Way Match:** Identify payment to be made using a three-way match.

(j) **Office of Acquisitions:** Insert the name of the Office of Acquisitions, as identified in Section G of the Contract Schedule.

(k) **Central Point of Distribution:** Insert the Central Point of Distribution, as identified in the Invoice Submission Instructions in Section G of the Contract Schedule.

(l) **Billing Period:** Insert the beginning and ending dates (month, day, and year) of the period in which costs were incurred and for which reimbursement is claimed.

(m) **Amount Billed - Current Period:** Insert the amount claimed for the current billing period by major cost element, including any adjustments and fixed-fee. If the Contract Schedule contains separately priced line items, identify the contract line item(s) on the payment request and include a separate breakdown (by major cost element) for each line item.

(n) **Amount Billed - Cumulative:** Insert the cumulative amounts claimed by major cost element, including any adjustments and fixed-fee. If the Contract Schedule contains separately priced line items, identify the contract line item(s) on the payment request and include a separate breakdown (by major cost element) for each line item.

(o) **Direct Costs:** Insert the major cost elements. For each element, consider the application of the paragraph entitled "Costs Requiring Prior Approval" on page 1 of these instructions.

(1)

(2) **Direct Labor:** Include salaries and wages paid (or accrued) for direct performance of the contract.

For Level of Effort contracts only, the Contractor shall provide the following information on a separate sheet of paper attached to the payment request:

- hours or percentage of effort and cost by labor category (as specified in the Level of Effort Article in Section F of the contract) for the current billing period, and

- hours or percentage of effort and cost by labor category from contract inception through the current billing period.

(NOTE: The Contracting Officer may require the Contractor to provide additional breakdown for direct labor, such as position title, employee name, and salary or hourly rate.)

(3) **Fringe Benefits:** List any fringe benefits applicable to direct labor and billed as a direct cost. Do not include in this category fringe benefits that are included in indirect costs.

(4) **Accountable Personal Property:** Include permanent research equipment and general purpose equipment having a unit acquisition cost of $1,000 or more, with a life expectancy of more than two years, and sensitive property regardless of cost (see the HHS *Contractor's Guide for Control of Government Property*). Show permanent research equipment separate from general purpose equipment.

On a separate sheet of paper attached to the payment request, list each item for which reimbursement is requested. An asterisk (*) shall precede the item if the equipment is below the $1,000 approval level. Include reference to the following (as applicable):

- item number for the specific piece of equipment listed in the Property Schedule, and
- COA number, if the equipment is not covered by the Property Schedule.

The Contracting Officer may require the Contractor to provide further itemization of property having specific limitations set forth in the contract.

(5) **Materials and Supplies:** Include equipment with unit costs of less than $1,000 or an expected service life of two years or less, and consumable material and supplies regardless of amount.

(6) **Premium Pay:** List remuneration in excess of the basic hourly rate.

(7) **Consultant Fee:** List fees paid to consultants. Identify consultant by name or category as set forth in the contract or COA, as well as the effort (i.e., number of hours, days, etc.) and rate billed.

(8) **Travel:** Include domestic and foreign travel. Foreign travel is travel outside of Canada, the United States and its territories and possessions. However, for an organization located outside Canada, the United States and its territories and possessions, foreign travel means travel outside that country. Foreign travel must be billed separately from domestic travel.

(9) **Subcontract Costs:** List subcontractor(s) by name and amount billed. Cite applicable COA or notification.

(10) **Other:** List all other direct costs in total unless exceeding $1,000 in amount. If over $1,000, list cost elements and dollar amounts separately. If the contract contains restrictions on any cost element, that cost element must be listed separately.

(p) **Cost of Money (COM):** Cite the COM factor and base in effect during the time the cost was incurred and for which reimbursement is claimed.

(q) **Indirect Costs:** Identify the indirect cost base (IDC), indirect cost rate, and amount billed for each indirect cost category.

(r) **Fixed-Fee:** Cite the formula or method of computation for fixed-fee, if applicable. The fixed-fee must be claimed as provided for by the contract.

(s) **Total Amounts Claimed:** Insert the total amounts claimed for the current and cumulative periods.

(t) **Adjustments:** Include amounts conceded by the Contractor, outstanding suspensions, and/or disapprovals subject to appeal.

(u) **Grand Totals**

(v) **Certification of Salary Rate Limitation:** If required by the contract (see Invoice Submission Instructions in Section G of the Contract Schedule), the Contractor shall include the following certification at the bottom of the payment request:

"I hereby certify that the salaries billed in this payment request are in compliance with the Salary Rate Limitation Provisions in Section H of the contract."

(w) **Signature**

The Contracting Officer may require the Contractor to submit detailed support for costs claimed on one or more interim payment requests.

FINANCIAL REPORTING INSTRUCTIONS:

These instructions are keyed to the Columns on the sample invoice/financing request.

Column A - Expenditure Category: Enter the expenditure categories required by the contract.

Column B - Cumulative Percentage of Effort/Hrs. - Negotiated: Enter the percentage of effort or number of hours agreed to for each employee or labor category listed in Column A.

Column C - Cumulative Percentage of Effort/Hrs. - Actual: Enter the percentage of effort or number of hours worked by each employee or labor category listed in Column A.

Column D - Amount Billed - Current: Enter amounts billed during the current period.

Column E - Amount Billed - Cumulative: Enter the cumulative amounts to date.

Column F - Cost at Completion: Enter data only when the Contractor estimates that a particular expenditure category will vary from the amount negotiated. Realistic estimates are essential.

Column G - Contract Amount: Enter the costs agreed to for all expenditure categories listed in Column A.

Column H - Variance (Over or Under): Show the difference between the estimated costs at completion (Column F) and negotiated costs (Column G) when entries have been made in Column F. This column need not be filled in when Column F is blank. When a line item varies by plus or minus 10 percent, i.e., the percentage arrived at by dividing Column F by Column G, an explanation of the variance should be submitted. In the case of an overrun (net negative variance), this submission shall not be deemed as notice under the Limitation of Cost (Funds) Clause of the contract.

Modifications: Any modification in the amount negotiated for an item since the preceding report should be listed in the appropriate cost category.

Expenditures Not Negotiated: An expenditure for an item for which no amount was negotiated (e.g., at the discretion of the Contractor in performance of its contract) should be listed in the appropriate cost category and all columns filled in, except for
G. Column H will of course show a 100 percent variance and will be explained along with those identified under H above.

SAMPLE INVOICE/FINANCING REQUEST AND CONTRACT FINANCIAL REPORT

(a) Designated Billing Office Name and Address: DHHS/OS/ASPR/BARDA Attn: Contracting Officer 330 Independence Ave., S.W. Room G644 Washington, D.C. 20201	(c) Invoice/Financing Request No.: (d) Date Invoice Prepared: (e) Contract No. and Order No. (if applicable): (f) Effective Date: (g) Total Estimated Cost of Contract/Order: (h) Total Fixed-Fee (if applicable): [ ] Two-Way Match: [ ] Three-Way Match: (i) Office of Acquisitions: (j) Central Point of Distribution:
(b) Contractor's Name, Address, Point of Contact, VIN, and DUNS or DUNS+4 Number: ABC CORPORATION 100 Main Street Anywhere, USA Zip Code Name, Title, Phone Number, and E-mail Address of person to notify in the event of an improper invoice or, in the case of payment by method other than Electronic Funds Transfer, to whom payment is to be sent. **VIN:** **DUNS or DUNS+4:**	

(l) This invoice/financing request represents reimbursable costs for the period from to

■	Cumulative Percentage of Effort/Hrs.		Amount Billed				
Expenditure Category* A	Negotiated B	Actual C	(m) Current D	(n) Cumulative E	Cost at Completion F	Contract Amount G	Variance H
(o) Direct Costs:							
(1) Direct Labor							
(2) Fringe Benefits							
(3) Accountable Property							
(4) Materials & Supplies							
(5) Premium Pay							
(6) Consultant Fees							
(7) Travel							
(8) Subcontracts							
(9) Other							
Total Direct Costs							
(p) Cost of Money							
(q) Indirect Costs							
(r) Fixed Fee							
(s) Total Amount Claimed							
(t) Adjustments							
(u) Grand Totals							

I certify that all payments are for appropriate purposes and in accordance with the contract.

(Name of Official) (Title)

* Attach details as specified in the contract

Pursuant to 17 CFR 20.24b-2, confidential information has been omitted in places marked " * * * " and has been filed separately with the Securities and Exchange Commission pursuant to a Confidential Treatment Application with the Commission.

ATTACHMENT 6

FINANCIAL REPORT OF INDIVIDUAL PROJECT/CONTRACT Note: Complete this Form in Accordance with Accompanying Instructions.	**Project Task:**	**Contract No.:**	**Date of Report:**	**0990-0134** **0990-0131**
	Reporting Period:	**Contractor Name and Address:**		

Expenditure Category	**Percentage of Effort/Hours**		**Cumulative Incurred Cost at End of Prior Period**	**Incurred Cost-- Current Period**	**Cumulative Cost to Date (D + E)**	**Estimated Cost to Complete**	**Estimated Cost at Completion (F + G)**	**Negotiated Contract Amount**	**Variance (Over or Under) (I - H)**
	Negotiated	**Actual**							
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**

ATTACHMENT 7

INSTRUCTIONS FOR COMPLETING
"FINANCIAL REPORT OF INDIVIDUAL PROJECT/CONTRACT"

GENERAL INFORMATION

Purpose. This Quarterly Financial Report is designed to: (1) provide a management tool for use by be BARDA in monitoring the application of financial and personnel resources to the BARDA contracts; (2) provide contractors with financial and personnel management data which is usable in their management processes; (3) promptly indicate potential areas of contract underruns or overruns by making possible comparisons of actual performance and projections with prior estimates on individual elements of cost and personnel; and (4) obtain contractor's analyses of cause and effect of significant variations between actual and prior estimates of financial and personnel performance.

REPORTING REQUIREMENTS

Scope. The specific cost and personnel elements to be reported shall be established by mutual agreement prior to award. The Government may require the contractor to provide detailed documentation to support any element(s) on one or more financial reports.

Number of Copies and Mailing Address. An original and two (2) copies of the report(s) shall be sent to the contracting officer at the address shown on the face page of the contract, no later than 30 working days after the end of the period reported. However, the contract may provide for one of the copies to be sent directly to the Contracting Officer’s Technical Representative.

REPORTING STATISTICS

A modification which extends the period of performance of an existing contract will not require reporting on a separate quarterly report, except where it is determined by the contracting officer that separate reporting is necessary. Furthermore, when incrementally funded contracts are involved, each separate allotment is not considered a separate contract entity (only a funding action). Therefore, the statistics under incrementally funded contracts should be reported cumulatively from the inception of the contract through completion.

Definitions and Instructions for Completing the Quarterly Report. For the purpose of establishing expenditure categories in Column A, the following definitions and instructions will be utilized. Each contract will specify the categories to be reported.

(1) **Key Personnel.** Include key personnel regardless of annual salary rates. All such individuals should be listed by names and job titles on a separate line including those whose salary is not directly charged to the contract but whose effort is directly associated with the contract. The listing must be kept up to date.

(2) **Personnel--Other.** List as one amount unless otherwise required by the contract.

(3) **Fringe Benefits.** Include allowances and services provided by the contractor to employees as compensation in addition to regular salaries and wages. If a fringe benefit rate(s) has been established, identify the base, rate, and amount billed for each category. If a rate has not been established, the various fringe benefit costs may be required to be shown separately. Fringe benefits which are included in the indirect cost rate should not be shown here.

(4) **Accountable Personal Property.** Include nonexpendable personal property with an acquisition cost of $1,000 or more and with an expected useful life of two or more years, and sensitive items regardless of cost. Form HHS 565, "Report of Accountable Property," must accompany the contractor's public voucher (SF 1034/SF 1035) or this report if not previously submitted. See "Contractor's Guide for Control of Government Property."

(5) **Supplies.** Include the cost of supplies and material and equipment charged directly to the contract, but excludes the cost of nonexpendable equipment as defined in (4) above.

(6) **Inpatient Care.** Include costs associated with a subject while occupying a bed in a patient care setting. It normally includes both routine and ancillary costs.

(7) **Outpatient Care.** Include costs associated with a subject while not occupying a bed. It normally includes ancillary costs only.

(8) **Travel.** Include all direct costs of travel, including transportation, subsistence and miscellaneous expenses. Travel for staff and consultants shall be shown separately. Identify foreign and domestic travel separately. If required by the contract, the following information shall be submitted: (i) Name of traveler and purpose of trip; (ii)

Place of departure, destination and return, including time and dates; and (iii) Total cost of trip.

(9) **Consultant Fee.** Include fees paid to consultant(s). Identify each consultant with effort expended, billing rate, and amount billed.

(10) **Premium Pay.** Include the amount of salaries and wages over and above the basic rate of pay.

(11) **Subcontracts.** List each subcontract by name and amount billed.

(12) **Other Costs.** Include any expenditure categories for which the Government does not require individual line item reporting. It may include some of the above categories.

(13) **Overhead/Indirect Costs.** Identify the cost base, indirect cost rate, and amount billed for each indirect cost category.

(14) **General and Administrative Expense.** Cite the rate and the base. In the case of nonprofit organizations, this item will usually be included in the indirect cost.

(15) **Fee.** Cite the fee earned, if any.

(16) **Total Costs to the Government.**

PREPARATION INSTRUCTIONS

These instructions are keyed to the Columns on the Quarterly Report.

Column A--Expenditure Category. Enter the expenditure categories required by the contract.

Column B--Percentage of Effort/Hours Negotiated. Enter the percentage of effort or number of hours agreed to during contract negotiations for each labor category listed in Column A.

Column C--Percentage of Effort/Hours-Actual. Enter the cumulative percentage of effort or number of hours worked by each employee or group of employees listed in Column A.

Column D--Cumulative Incurred Cost at End of Prior Period. Enter the cumulative incurred costs up to the end of the prior reporting period. This column will be blank at the time of the submission of the initial report.

Column E--Incurred Cost-Current Period. Enter the costs which were incurred during the current period.

Column F--Cumulative Incurred Cost to Date. Enter the combined total of Columns D and E.

Column G--Estimated Cost to Complete. Make entries only when the contractor estimates that a particular expenditure category will vary from the amount negotiated. Realistic estimates are essential.

Column H--Estimated Costs at Completion. Complete only if an entry is made in Column G.

Column I--Negotiated Contract Amount. Enter in this column the costs agreed to during contract negotiations for all expenditure categories listed in Column A.

Column J--Variance (Over or Under). Complete only if an entry is made in Column H. When entries have been made in Column H, this column should show the difference between the estimated costs at completion (Column H) and negotiated costs (Column I). When a line item varies by plus or minus 10 percent, i.e., the percentage arrived at by dividing Column J by Column I, an explanation of the variance should be submitted. In the case of an overrun (net negative variance), this submission shall not be deemed as notice under the Limitation of Cost (Funds) Clause of the contract.

Modifications. List any modification in the amount negotiated for an item since the preceding report in the appropriate cost category.

Expenditures Not Negotiated. List any expenditure for an item for which no amount was negotiated (e.g., at the discretion of the contractor in performance of its contract) in the appropriate cost category and complete all columns except for I. Column J will of course show a 100 percent variance and will be explained along with those identified under J above.

Department of Health & Human Services HHS
Office of the Assistant Secretary for Preparedness and Readiness ASPR
Biomedical Advanced Research and Development Authority BARDA

7 Principles of Earned Value Management
Tier 3

System Implementation Intent Guide

01 October 2011

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7 Principles of EVM Tier 2 System Implementation Intent Guide

OVERVIEW

Earned Value Management (EVM) is a program management tool, technique, and discipline that facilitates systematic planning for and monitoring of, high value, complex projects. It integrates a project's scope of work with the related budget and schedule to permit detailed assessment of overall performance during the life of the project.

Several government-wide guidance documents govern the definition and use of EVM systems. Guidelines outlining the qualities and characteristics of an EVM system are set forth in the American National Standards Institute/Electronic Industries Alliance (ANSI/EIA) Standard-748 (most current version). More detailed and specific guidance and direction is contained in OMB Circular A-11, *Preparation, Submission and Execution of the Budget*, specifically in Part 7 of that Circular A-11, *Planning, Budgeting, Acquisition, and Management of Capital Assets*, and its supplement, the Capital Programming Guide. Based on this collective OMB guidance, EVMS is intended to be used on those parts of acquisitions that will involve developmental effort. This would include not only those acquisitions designated by the agency as major systems but also those acquisitions that include significant developmental, modification, or upgrade during the operational or steady-state phase of a program.

The FAR rule on EVMS became effective on July 5, 2006. Its purpose is to implement EVMS policy in accordance with OMB Circular A-11. Because the new FAR coverage applies throughout the executive branch and to agencies with disparate definitions of and processes and procedures for major systems acquisitions, the FAR Council decided against a "one-size-fits all" approach and left several significant aspects of the detailed implementation up to the discretion of each covered agency.

The FAR and Health and Human Services Acquisition Regulations (HHSAR) language for EVMS will be utilized for all construction or Information Technology (IT) projects. Since most of the acquisitions at the Biomedical Advanced Research and Development Agency (BARDA) are unique in that most acquisitions are not Information Technology projects or construction projects, BARDA is developing EVM language that incorporates the 7 Principles of Earned Value Management. These principles allow flexibility to an EVM system structure but still meet the spirit of the ANSI/EIA Standard-748. It also incorporates discipline in implementation and operations and also provides the same reporting data outlined by OMB.

The Seven Principles of Earned Value Management are as follows:

1. Plan all work scope to completion

2. Break down the program work scope into finite pieces that can be assigned to a responsible person or organization for control of technical, schedule and cost objectives

3. Integrate program work scope, schedule, and cost objectives into a performance measurement baseline plan against which accomplishments can be measured. Control changes to the baseline.

4. Use actual costs incurred and recorded in accomplishing the work performed.

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5. Objectively assess accomplishments at the work performance level.

6. Analyze significant variances from the plan, forecast impacts, and prepare an estimate at completion based on performance to date and work to be performed.

7. Use earned value information in the company’s management processes.

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EVM IMPLEMENTATION TIERS

BARDA will be implementing a tiered approach to EVM based on the type of acquisition, size of the acquisition and the technical readiness level. There are three tiers and they are as follows:

TIER 1

For all construction contracts and IT contracts the ANSI/EIA-748 Standard for Earned Value Management Systems will apply and all relevant FAR/HHSAR clauses pertaining to EVMS will be incorporated in the contract. The National Defense Industrial Association (NDIA) Program Management Systems Committee (PMSC) ANSI/EIA-748 Standard for Earned Value Management Systems Intent Guide should be used as guidance.

TIER 2

For countermeasure research and development contracts that have a total acquisition costs greater than or equal to $25 million and have a Technical Readiness Level (TRL) of less than 7 will apply EVM principles for tracking cost, schedule and technical performance that comply with the 7 Principles of EVM Implementation.

TIER 3

For countermeasure research and development contracts that have total acquisition costs less than $25 million but greater than $10 million will apply EVM principles for tracking cost, schedule and technical performance that are consistent with the 7 Principles of EVM Implementation.

This Guide is an explanation of the intent of what is expected for a Tier 2 system implementation of the 7 Principles of EVM.

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SEVEN PRINCIPLES OF EVM

Principle 1: Plan all Work Scope

In a performance measurement system implementation the Statement of Work (SOW) should reflect all work that is to be performed. In a 7 Principles implementation a Work Breakdown Structure (WBS) shall be developed to include all elements of the SOW. The level of the WBS may not be as detailed as in a Tier 1 implementation. It would be developed at a higher level, such as level three or four, however, the government may expand specific technical legs to lower than level four and it may retract some non-technical legs to higher than 3. It is beneficial and required to develop a WBS dictionary that explains what work is going to be performed in each WBS in detail. This will ensure that the contractor has identified all work scope and left no major work undefined. It is recommended that the work packages descriptions are clear and detailed so that there is an understanding of the work that is to be performed in the work packages. For the 7 Principles implementation programs it would be acceptable for the WBS Dictionary be expanded to include information that would normally be kept on a Work Authorization Document, such as charge numbers associated with the work, period of performance, the manager who is responsible for the work, and budget associated with the WBS. The additional “WAD info” would only be added to the lowest level (i.e. level 3 or 4) of the WBS. The roll up level WBS would only include scope. By doing this documentation is limited to one document instead of two.

By developing a WBS and a WBS Dictionary/Work Authorization Document the work scope has been defined but the documentation is greatly reduced and the costs associated with developing and updating the documentation is reduced. The intent of the combination document is not to reduce the level of information provided to the government but to reduce the amount of documents that need to be produced. An example of a WBS dictionary and Work Authorization document and what is expected on the document(s) is provided.

In a Tier 3 implementation it is not necessary to provide a WBS Dictionary or a Work Authorization Document but it is important to develop a WBS and define a scope of work for each level of the WBS at the reporting level (usually level 3 or 2).

Principle 2: Break Work into Finite Pieces and Define Person/Organization Responsible for Work

In a 7 Principles Tier 2 implementation it is recommended that the work be broken into finite pieces in the schedule tool. It is recommended to plan the work by the lowest level WBS. The lowest level WBS (level 3 or 4) should be the control account and the activities would act as the work packages. Most of the normal functions accomplished when scheduling will be required on a 7 Principles Tier 3 implementation. These normal functions include, network scheduling, horizontal and vertical traceability, forecasting schedule start and completion dates, and running critical path analysis. As part of vertical traceability it is expected that all contract milestones will be listed on the schedule.

The schedule should include but is not limited to include the following fields:
WBS number
Control Account number
Work package number

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Task name
Duration
Baseline Start and Finish Dates
Actual Start and Finish Dates
Forecast Start and Finish Dates
Predecessor/Successors
Activity Percent Complete

All the work scheduled at the lowest level WBS should be identified by a single responsible manager. This manager, known as a Control Account Manager should be identified in the schedule tool and/or in a cost tool. In a 7 Principles implementation, only individuals at the lowest level WBS need be identified and there is no requirement for the costs to roll up by organization, although if it is not cost intensive or tool restricted then developing the OBS is recommended. In many cases, BARDA will provide the top three levels of the WBS for the contractor to use.

Principle 3a: Integrate Scope, Schedule and Budget into a Performance Measurement Baseline

This principle integrates the work scope, the schedule and the budget into a performance measurement baseline. Since we discussed work scope and schedule the focus of this principle is the incorporation of the budget in a time-phased manner. The budget must be integrated with the scope of work and the schedule into a Performance Measurement Baseline (PMB). The budget is made up of both direct and indirect dollars. An accepted way of incorporating the budget and integrating with the scope and schedule is to resource load the Microsoft Project (or other scheduling tool) schedule. This is done by loading the individual people and their loaded rate into the tool. This budget data will be input at the work package level with a rate that includes the indirect costs. The budget will have to have the capability to be rolled up to the control account level and will need to be reported in a way that provides the responsible manager (Control Account Manager) with information needed to manage the program. Resource loading of the schedule is not the only way to incorporate the budget. As long as the budget in the budget/EV tool is linked to the schedule activities and it is flexible to change when schedule baseline dates change, then loading the budget in the Budget/EV tool is an acceptable way to integrate the cost and schedule baselines. The budget information will be displayed on the time- phased Control Account Plan reports. These reports should have the flexibility to report the dollars both in total dollars, as well as, direct and indirect broken out separately. Also the report is generally required as a deliverable on most contracts and must have the capability to include earned value or Budgeted Cost of Work Performed (BCWP) and actual costs or Actual Costs of Work Performed (ACWP).

Budgeting of subcontractor effort will vary depending on whether or not the subcontractor is a cost plus or fixed price subcontract. If it is cost plus then the expectation is that there will be monthly billing of costs from the subcontractor to the prime contractor and therefore budget must be planned in accordance with the work completed and billed. If it is fixed price then the budget should be planned with work execution or milestones completed and budget should only be planned in those months where work is expected to be completed.

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It is recommended that management reserve and undistributed budget be utilized in the budgeting process. Undistributed budget is budget that has not yet been distributed to a control account and it requires additional time to plan the work and distribute the budget to a control account. It is a temporary holding account and budget should only stay in Undistributed Budget for one or two months. If the work scope is easily identified to all the control accounts then the use of Undistributed Budget may not be necessary.

Management Reserve is budget that is set aside, normally by the Program Manager, to be used to budget future but currently unknown tasks. It is associated with risk issues and is to be used to mitigate risk. It is not part of the Performance Measurement Baseline and it should not be used for out of scope work and to cover overruns.

Principle 3b: Control Changes to the Baseline

A properly controlled PMB is crucial to effective program management. The timely and accurate incorporation of contractual changes ensures that the information generated from the execution of the baseline plan provides an accurate picture of progress and facilitates correct management actions and decisions. The accurate and timely incorporation of authorized and negotiated changes into the PMB ensures that valid performance measurement information is generated for the new scope being executed. Near term new scope effort should be planned and have budget in control accounts. Far term new scope effort that cannot be reasonably planned in the near term can either be put in planning packages in the control account or left in Undistributed Budget if the control account has not been identified. The timely and accurate incorporation of authorized and negotiated changes into the PMB ensures that valid performance measurement information is generated for the new scope being executed. Budget revisions are made when work is added to the contract and are traceable from authorized contract target costs to the control account budgets or from management reserve. Management reserve may be used for future work when additional in- scope work has been identified.

Retroactive changes to the baseline may mask variance trends and prevent the use of performance data to project estimates of cost and schedule at completion. Controlling retroactive adjustments, which should only be made in the current period, if possible, is imperative because they could arbitrarily eliminate existing cost and schedule variances.

The use of program budget logs should be used to track and log all budget changes. The ability to track budget values for both the internal and external changes will help in the maintenance of the performance measurement baseline from program start to completion. Contractor is expected to utilize baseline change documentation facilitating the change. It should provide the rationale/justification, approval process, work scope additions or deletions, dollars, changes to schedules, estimate at completion, etc. It should also include contractual change documents for external changes, such as a contract modification, letter to proceed, not to exceed letter, change order, etc., that transmit and authorize the change or addition to work, budget, and schedule. Other documents that should change if a change of scope has been authorized is: Statement of Work, WBS (changes if applicable); WBS Dictionary (additions or deletions to scope); work authorization documents authorizing new scope, schedule and budget; schedules.

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Principle 4: Use Actual Costs Incurred and Recorded in Accomplishing the Work Performed

Some of the new acquisitions at BARDA will be required to be compliant with the Cost Accounting Standards. For Tier 3 implementation contractors must utilize a work order/job order/task code charge number structure that uniquely identifies costs at the control account level, which may be as high as the reporting level of the WBS. This will allow for accumulation and summarization of costs to higher levels of the work breakdown structure. Actual costs are accumulated in the formal accounting system in a manner consistent with the way the related work is planned and budgeted. Actual costs reported in the performance reports agrees with the costs recorded in the accounting system or can be explained as timing differences. The contractor will have to be able to incorporate and reconcile to the accounting system actual costs on their Contract Performance Reports (CPR) to the customer.

Depending on the amount of material and subcontractors on the program, it may be necessary for reporting purposes, to include accruals, or estimated actuals, for these costs. Since material and subcontractor invoices are not paid and recorded in the accounting system for up to several months after the work has been planned, performance data will be skewed. Accruing or estimating actual costs based on receipt (for material) and expended hours for subcontractors will alleviate this issue. The use of accrual/estimated actuals should be reviewed on a case by case basis depending on the size of program, the amount of material or subcontractor budget and costs. If the material and subcontract effort on the project is minimal (represents less than 5% of the project budget) then the time and effort needed to manage the accruals would outweigh the benefit of having the costs accrued since the performance data would only be minimally affected. Although actual costs are generally reported to the USG in total dollars the system must be able to differentiate and report direct costs and indirect costs if requested.

If the subcontractor has a fixed price contract the prime contractor, then the prime contractor must report actual costs in accordance with the work that is accomplished. This is acheived by recording the actual costs equal to the work that was performed in the EVM system and on the CPR. If the subcontractor is a cost plus contract its imperative the costs the prime reports is in accordance with the costs incurred in that month. This is necessary to ensure that the data reported is not skewed. With this premise, fixed price subcontractors cost variances should not exist or be reported on the CPR whereas the cost reported for cost plus subcontractors should be based on what was incurred and not what has been invoiced to date, which may be months behind.

Principle 5: Objectively Assess Accomplishments at the Work Performance Level

In order to meet this Principle, the scheduling of the scope of work in work packages or activities need to incorporate measurable units or milestones in order to objectively assess accomplishments or obtain what we call “earned value”. These units or milestones are given a value based on labor resources needed to accomplish the work (which becomes the Budgeted Cost of Work Scheduled or BCWS). When they are accomplished (known as Budgeted Cost of Work Performed or BCWP) they receive the value associated with the budget which measures progress.

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Schedule status to measure progress needs to be on at least on a monthly basis although it is preferred on a bi-weekly basis. As part of the status process progress dates, such as actual start/complete and forecast start/complete need to be updated.

Since Microsoft Project seems to be the schedule tool of choice by most contractors, there are four types of earned value methodologies utilized by Microsoft Project of which two assess progress by the completion of milestones and they are the 50/50 and 0/100 methodologies. In both cases, progress is reported for completion milestones and in the 50/50 methodology fifty percent of the value of the work package/activity is credited for starting the work. The other two earned value methodologies are assessed percent complete (also know as Supervisor's Estimate) and level of effort (LOE). All four methodologies are legitimate earn value measurement techniques.

Additional earned value methodologies, such as the weighted milestone methodology and percent complete with milestone gates may be utilized. The weighted milestone method allows value to be earned based on the resource value in each month, which eliminates artificial schedule variances.

For subcontractors that have a fixed price contract with the prime contractor, the expectation is that there will be no cost variance. The ACWP reported on the CPR will equal the BCWP earned, regardless of the payment schedule with subcontractor.

Principle 6a: Analyze Significant Variances From the Plan

The purpose of this principle is to ensure that the earned value data is analyzed by the contractor and reported to the customer. The 7 Principles programs should be able to calculate the cost variance (BCWP minus Actual Cost of Work Performed (ACWP) and the schedule variance (BCWP minus BCWS) at least on a cumulative basis. It is recommended that variances be calculated on a current month basis also. The EVM system should also provide both monthly and cumulative Cost Performance Index (BCWP divided by ACWP) and Schedule Performance Index (BCWP divided by the BCWS). This data should be provided at the control account level and at the roll up levels and it needs to be in a format for Control Account Managers and program management to be able to utilize in managing the work.

It is also recommended that the To-Complete Performance Index (TCPI) be included in the Control Account Manager performance report. The TCPI is a valuable index that calculates the cost performance the control account needs to perform at in order to complete the work within the current reported EAC. When the TCPI is compared against the cumulative CPI it gives a good indication whether or not the current EAC is reasonable. For example, if a cumulative CPI is .85 and the TCPI calculates to equal 1.15 that is the performance factor that work would need to perform at in order to meet the current EAC. If the cumulative CPI is .85 then it can be determined that the current EAC might not be reasonable. It allows management and Project Controls the opportunity to question the Control Account Manager as to the validity of the current EAC. As a rule in thumb if the deviation between the CPI and the TCPI is greater than .2 then the CAM should reassess the control account EAC.

These reports, which should be provided monthly, should also include the current Budget at Completion (BAC) and the current Estimate at Completion (EAC). In addition, it would be a

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plus if the CAM could see a report with their time-phased spread of hours and dollars for their budget plan (BCWS), work accomplished (BCWP) and actual costs (ACWP).

For all variances that exceed the contractual variance threshold will include a description of what caused the variance, impact to the control account and the program, and a corrective action.

Principle 6b: Prepare an Estimate at Completion Based on Performance to Date and Work to be Performed

Providing an updated EAC is a prime concern of the customer and the contractor. Therefore a robust EAC process should be in place whether the program is ANSI compliant or not.

Based on the performance to date the Estimates at Completion can be updated on a monthly basis by the Control Account Manager in the scheduling tool during the status process or in the cost/EVM tool at the end of the month's process prior to submittal of the EVM report. The EAC is an element of the performance measurement system that needs to accurately reflect the contractor's best estimate of what it will cost to complete the project.

Program management should be able to validate control account manager's EACs by looking at performance indices, such as the To-Complete Performance Index, as well as independent statistical EACs.

Principle 7: Use EVMS Information in the Company's Management Processes

One of the key areas that concerns government Program Management Offices (PMO) is the level of importance that contractor's place on EVM as a management tool. During a site visit, such as conducting an Integrated Baseline Review, the PMO gauges what the interest, knowledge, and most importantly, the usage of the performance measurement data in managing the program. They want to know that the managers on the program, including the program manager, have received some earned value training. The level of involvement and use of the EVM data to manage their schedule, cost and technical issues is ascertained by questions. The PMO can also tell by how robust the EACs are and if the variance narratives are being written with impacts to the program and corrective actions being monitored by the contractor. It is important that the contractor's management team, including the Program Manager, utilize the data from the performance measurement system as a management tool. They should be knowledgeable and understand the data. They should know what is causing the variances and ensure that the variance narratives are written properly and answer what the issues, impacts and corrective actions are. They should be able to demonstrate that they use the information to assist them in the management decision process.

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APPENDICES

The following appendices provide further support in understanding the meaning and intent of properly implementing the 7 Principles of EVM.

Appendix 1 is a glossary of the terms used in the Intent Guide.

Appendix 2 is supplemental guidance on EVM implementation. It provides some guidelines on what is expected in the implementation, required documents needed for the Performance Measurement Baseline Review, expected EVM implementation costs, EVM engines functionality needs, explains what is expected in the monthly EVM facilitation, discusses what EVM consultants need to know, and what the expected costs of EVM to BARDA.

Appendix 3 are examples of some of the EVM documents that are needed in an EVM system. There are three documents and they mostly apply to Tier 2 EVM implementations. These documents are samples and are not a reflection of the specific way the document must look. It's included to provide contractors with an understanding of the type of information that is expected on these forms.

APPENDIX 1: Glossary of Terms

Actual Cost of Work Performed (ACWP)	The costs actually applied and recorded in accomplishing the work performed within a specified period.
Actual Direct Cost	Those costs identified specifically with a contract, based upon the contractor's cost identification and accumulation system as accepted by the cognizant DCAA representatives. (See Direct Costs).
Advance Agreement (AA)	An agreement between the contractor and the Contract Administration Office concerning the application of an approved earned value management system to contracts within the affected facility.
Authorized Work	That effort which has been authorized and is on contract, or that for which authorized contract costs have not been agreed to but for which written authorization has been received.

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Baseline	(See Performance Measurement Baseline).
Budget at Completion (BAC)	The sum of all budgets (BCWS) allocated to the contract. Synonymous with the term Performance Measurement Baseline.
Budgeted Cost for Work Performed (BCWP)	The sum of the budgets for completed Work Packages and completed portions of open Work Packages, plus the appropriate portion of the budgets for level of effort and apportioned effort (Also see Earned Value).
Budgeted Cost for Work Scheduled (BCWP)	The sum of the budgets for completed Work Packages, planning packages, etc., scheduled to be accomplished (including in-process Work Packages), plus the amount of level of effort and apportioned effort scheduled to be accomplished within a given time period.
Change Order (CO)	A formal authorization by the Procuring Contracting Officer for a change of scope to an existing contract
Contract Modification	A written and binding authorization to proceed created after change proposal negotiations.
Contract Budget Base (CBB)	The negotiated contract cost plus the estimated cost of authorized unpriced work, where: (1) Negotiated Contract Cost is that cost on which contractual agreement has been reached. For an incentive contract, it is the definitized contract target cost plus/minus the value of changes which have been priced and incorporated into the contract through contract change order or supplemental agreement. For fixed-fee contracts, it is the negotiated estimated cost. Changes to the estimated cost will consist only of the formal contract modifications or change orders or change in the contract statement of work, not for cost growth, and

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	(2) Estimated cost of authorized, unpriced work is the estimated cost (excluding fee or profit) for that work for which written authorization has been received, but for which definitized contract prices have not been incorporated into the contract through supplemental agreement.
Control Account	A management control point at which actual costs can be accumulated and compared to budgeted cost for work performed. A control account is a natural control point for cost/schedule planning and control since it represents the work assigned to one responsible organizational element on one contract work breakdown structure (CWBS) element.
Control Account Manager (CAM)	A member of a functional organization responsible for task performance detailed in a Control Account and for managing the resources authorized to accomplish the tasks.
Control Account Plan (CAP) Report	A CAP report is a timephased report which reflects all the work and effort to be performed in a control account. The CAP report will reflect the hours and dollars by element of cost (labor, subcontract, ODC, etc) and may also include milestone information.
Contract Performance Report (CPR)	The monthly report submitted to the customer showing the current, cumulative and at completion status, the performance measurement baseline, manpower loading, and a narrative explanation of significant program variances.
Contract Target Cost	The dollar value (excluding fee or profit) negotiated in the original contract plus the cumulative cost (excluding fee or profit) applicable to all definitized changes to the contract. It consists of the estimated cost negotiated for a cost plus fixed fee contract and the definitized target cost for an incentive contract. The contract target cost does not include the value of authorized/un-negotiated work, and is thus equal to the contract budget base only when all authorized work has been negotiated/definitized.

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Cost Performance Index (CPI)	An efficiency rating reflecting a project's budget performance - either over or under. Measured as a ratio of the budgeted value of work accomplished versus the actual costs expended for a given project time period. The formula for CPI is BCWP/ACWP.
Discrete Effort	Program effort that has a measurable output, product or service.
Direct Costs	Those costs (labor, material, etc.) that can be reasonably and consistently related directly to service performed on a unit of work, and are charged directly to the contract, without distribution to an overhead unit.
Earned Value	See Budgeted Cost for Work Performed (BCWP)
Earned Value Management System (EVMS)	A project management system utilized for measuring project progress in an objective manner. Combines measurements of scope, schedule, and cost in a single integrated system.
Estimate at Completion (EAC)	A value (expressed in dollars and/or hours) developed to represent a realistic appraisal of the final cost of tasks when accomplished. It’s the sum of direct & indirect costs to date plus the estimate of costs for all authorized Work remaining. The EAC = ACWP + the Estimate-to-Complete.
Estimate to Completion (ETC)	A value (expressed in dollar and/or hours) developed to represent a realistic appraisal of the cost of the work still required to be accomplished in completing a task.
Indirect Costs	Represents those costs, because they are incurred for common or joint objectives, are not readily subject to

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	treatment as direct costs. (See overhead).
Integrated Baseline Review (IBR)	An Integrated Baseline Review (IBR) also known as Performance Measurement Baseline Review (PMBR) is a formal review led by the Government Program Manager and Technical Support Staff. An IBR is conducted jointly with the Government and their Contractor counterparts. The purpose of an IBR is to: verify the technical content of the Performance Measurement Baseline (PMB); assess the accuracy of the related resources (budgets) and schedules; identify potential risks.
Integrated Master Plan (IMP)	The overall program plan including the work definition, technical approach, performance criteria, and completion criteria.
Integrated Master Schedule (IMS)	The IMS expands the IMP to the work planning level. It defines the tasks, their durations, milestones, milestone dates which relate to the IMP completion criteria, and interdependencies required to complete the program. The IMP and IMS are used to track and execute the program.
Integrated Product Team (IPT)	A grouping of project personnel along project objective lines rather than along organizational lines. Integrated Product Teams are work teams that represent a transition from a functional organization structure to a multi- functional project objective arrangement.
Internal Replanning	Replanning actions performed by the program for remaining effort within the recognized total allocated budget.
Level of Effort (LOE)	Work that does not result in a final product, e. g., liaison, coordination, follow-up, or other support activities, and which cannot be effectively associated with a definable end

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	product process result. It is measured only in terms of resources actually consumed within a given time period.
Management Reserve (MR)	An amount of the total Contract Budget Base (CBB) withheld for management control purposes rather than designated for the accomplishment of a specific task or set of tasks. It is not a part of the Performance Measurement Baseline.
Negotiated Contract Target Cost	The estimated cost negotiated in a Cost Plus Award Fee (CPAF), Cost Plus Fixed Fee (CPFF), Cost Plus Incentive Fee (CPIF) or Fixed Price Incentive Fee (FPIF) contract.
Original Budget	The budget established at, or near, the time the contract was signed, based on the negotiated contract cost.
Overhead	Indirect labor and material, supplies and services costs and other charges, which cannot be consistently identified with individual programs.
Other Direct Costs	A group of accounting elements which can be isolated to specific tasks, other than labor and material. Included in ODC are such items as travel, computer time, and services
Performance Measurement Baseline (PMB)	The time-phased budget plan against which contract performance is measured. It is formed by the budgets assigned to scheduled Control Accounts and the allocation of overhead costs. For future effort, not planned to the Control Account level, the performance measurement baseline also includes budgets assigned to higher level WBS elements, and undistributed budgets. It equals the total assigned budget less management reserve.
Performing Organization	A defined unit within the program organization structure, which applies the resources to performs the authorized scope

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	of work.
Planning Package	A logical aggregation of far term work within a Control Account that can be identified and budgeted but not yet defined into Work Packages.
Reprogramming	Replanning of the effort remaining in the contract, resulting in a new budget allocation which exceeds the contract budget base. The resulting baseline is called an Over Target Baseline (OTB).
Responsible Organization	A defined unit within program’s organization structure that is assigned responsibility for accomplishing specific tasks.
Risk Register	Is a tool commonly used in project planning and organizational risk assessments. It is often referred to as a Risk Log. It is used for identifying, analyzing and managing risks.
Schedule Performance Index (SPI)	An efficiency rating reflecting how quickly or slowly project work is progressing. Measured as a ratio of work accomplished versus work planned for a given period of time. The formula for SPI is BCWP/BCWS.
Significant Variances	Those differences between planned and actual cost and schedule performance which require further review, analysis, or action. Appropriate thresholds are established as to the magnitude of variances which will require variance analysis.
Statistical Estimate at Completion	Is a single point estimate that can be quickly prepared and used to test the reasonableness of the current cost estimates and budget and to indicate when a comprehensive EAC should be prepared

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Time-Phased S/P/A Report

Provides the timphased budget, performance (earned value) and actual costs at a specific level. It may be at the reporting level, control account, and/or work package level. In all cases the report will also provide the data at the total project level.

To-Complete Performance Index (TCPI)

An efficiency rating that provides a projection of the anticipated performance required to achieve the EAC. TCPI indicates the future required cost efficiency needed to achieve a target EAC (Estimate At Complete). Any significant difference between TCPI and the CPI needed to meet the EAC should be accounted for by management in their forecast of the final cost.

Total Allocated Budget (TAB)

The sum of all budgets allocated to the contract. Total allocated budget consists of the performance measurement baseline and all management reserve. The total allocated budget will reconcile directly to the Contract Budget Base (CBB). Any differences will be documented as to quantity and cause.

Undistributed Budget (UB) — Budget applicable to contract effort which has not yet been identified to WBS elements at or below the lowest level of reporting to the Government.

Variance Analysis Report (VAR) — The internal report completed by the Control Account Manager and submitted, through the Intermediate Manager, to the program manager for those Control Accounts which have variances in excess of established thresholds.

Variances — (See Significant Variances).

Work Authorization Document (WAD) — A form used to formally authorize and budget work to the Control Account Manager. This document must include, as a minimum, the Control Account number, Statement of Work, scheduled start and finish dates, budget, and

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	the identity of the CAM. It must be approved by Intermediate Manager, and be agreed to by the Control Account Manager.
Work Breakdown Structure (WBS)	A product-oriented, family-tree composed of hardware, software, services, data and facilities which results from system engineering efforts. A work breakdown structure displays and defines the product(s) to be developed and/ or produced and relates the elements of work to be accomplished to each other and to the end product. (1) Program WBS. The work breakdown structure that covers the acquisition of a specific defense material item and is related to contractual effort. A program work breakdown structure includes all applicable elements consisting of at least the first three levels of the work breakdown structure and extended by the program manager and /or contractor(s). A program work breakdown structure has uniform element terminology, definition, and placement in the family tree structure. (2) Contract WBS (CWBS) The complete WBS for a contract, developed and used by a contractor within the guidelines of MIL-Handbook 881 (latest revision) or NASA WBS Handbook (insert reference) or other customer guidelines and according to the contract work statement. It includes the approved work breakdown structure for reporting purposes and its discretionary extension to the lower levels by the contractor, in accordance with MIL- Handbook 881 and the contract work statement. It includes all the elements for the products (hardware, software, data, or services) which are the responsibility of the contractor.
Work Packages	Detailed short-span jobs, or material items, identified by the contractor for accomplishing work required to complete the contract. A Work Package has the following characteristics.

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1. It represents units of work at levels where work is performed.

2. It is clearly distinguishable from all other work packages.

3. It is assignable to a single organizational element.

4. It has scheduled start and finish dates and, as applicable, interim milestones, all of which are representative of physical accomplishment.

5. It has a budget or assigned value expressed in terms of dollars, man-hours or other measurable units.

6. Its duration is limited to a relatively short span of time or it is subdivided by discrete value milestones to facilitate the objective measurement of work performed.

7. It is integrated with detailed engineering, manufacturing, or other schedules.

Work Package Budgets	Resources which are formally assigned by the CAM to accomplish a Work Package, expressed in dollars and/or hours.

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Appendix 2 Supplemental EVM Implementation Guideline

Implementation of a 7 Principles of EVM system should be less expensive than if there was an ANSI/EIA-748. There is no need for the system to have to go through an EVM compliance review, plus the level of documentation should be streamlined.

The implementation should include:

- EVM Process flows that reflect how a company will build and maintain the EVM system. (EVM Procedures may also be included if the cost associated with them is reasonable)
- EVM engine tool and a schedule tool. It is not necessary to load the schedule tool, such as Microsoft Project, with resources. This adds an extra strep, additional costs and little to no value. It is recommended that all resource information be loaded in the EVM engine and leave the schedule tool to what it does best, measure progress through time (duration).
- The EVM Engine needs to be integrated with the company's accounting system.

Documentation needed for the Performance Measurement Baseline Review (PMBR)

- WBS Dictionary/Control Account Work Authorization Documentation
- Integrated Master Schedule
- Responsibility Assignment Matrix
- Control Account Plans
- PMB Log
- Baseline Revision Documents
- Risk Register

EVM IMPLEMENTATION COSTS

The cost for an implementation depends on the size of the contract and the tier level of EVM.

Tier 2 (projects greater than $25M)

Implementation costs should range $75K-$125K

Tier 3 (projects less than $25M)

Implementation costs should range ($50K - $100K)

EVM ENGINES/TOOLS

Depending on the size of the contract would predicate the level of functionality that would be needed. For Tier 2 contracts a larger, more robust EVM engine would be needed. For the Tier 3 small contracts MS Project or the MSP wrap-around would probably suffice although the more robust EVM engines can be used also.

Tier 2

It is recommended that one of the larger and flexible EVM engines be utilized. The tool should have the flexibility to be able to download data from MS Project and be able to upload or input budget data to provide time-phased budget information down to the work package level. It should be able to incorporate the companies Organization Breakdown Structure. It should be able

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to maintain baseline, actual costs, forecast and performance periodic data. It should be able to forecast Estimate to Complete with the ability to set up different rate tables if necessary. It should have the capability to use all earned value methodologies. It should be able to print many types of EVM reports that can provide information to the Control Account Managers (CAM) and Program Managers (PM), as well as, the Contract Performance Report (CPR) and the Control Account Plans (CAP) that are contract deliverables.

Tier 3

For Tier 3 projects, a company can certainly utilize an EVM engine as listed above or a less robust, less expensive EVM engine that provides the CPR and timephased S/P/A report. It may also use the Microsoft Project wrap-around tools of which there are several on the market. These tools also will provide the CPR and timephased S/P/A report for contract deliverable purposes.

EVM FACILITATION

EVM facilitation pertains to the monthly process to include:

- Schedule Status
- Integration of accounting data into EVM engine
- Run monthly reports for Control Account Managers (Tier 2 only)
- Prepare the monthly Contract Performance Report (CPR) Formats 1 and 5
- Run the monthly timephased S/P/A for both internal and external (contract requirement)
- PMB Change Control

Depending on the size of contract, a contractor should have an EVM/cost analyst and schedule analyst for a Tier 2 contract and one combined cost/schedule analyst for a Tier 3 contract. The costs for a schedule analyst on a yearly basis for an employee hire should be equal to or less than $125K. For a cost analyst it should be equal to or less than $110K. If a company is bringing in a contractor to provide staff implementation the costs should be up to $125/hr for a schedule analyst and $110/hr for an EVM/cost analyst.

EVM CONSULTANTS

There may be the need to bring in consultants to help set up your EVM system and perhaps provide EVM staff augmentation to provide the monthly facilitation. Make sure that you shop around and get several quotes. Also make sure that the consultants understand the statement of work pertaining to the BARDA EVM requirements. Most EVM consultants are used to working with companies that have a requirement to implement an ANSI/748 compliant EVM system per the DoD requirements and it is important that they have an understanding of what is required in a 7 Principles EVM implementation so that they don’t propose much more complex EVM system than is needed. Please be advised that the government will only accept reasonable costs associated with implementing a 7 Principles of EVM system.

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COST OF EVM

BARDA is working diligently to keep the costs of EVM implementation and facilitation at a reasonable level. Since the goal at BARDA is to provide an integrated, systematic approach to the development and purchase of the necessary vaccines, drugs, therapies, and diagnostic tools for public health medical emergencies, it is imperative that the funds for product development are used for that such purpose. BARDA expects the costs for implementation and facilitation of EVM to range 1%-2% of development budget. This is ratified by the white paper by Dr. Christenson titled “The Costs and Benefits of the Earned Value Management Process”.

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Appendix 3 Sample EVM Documents

WBS 1.4.1.x Cardiac (QTc) Safety

Description

Study Title: "A Phase 1 study to assess the cardiovascular safety of intravenous (IV) Panaceomycin in volunteers" (Thorough QT Study)

We will conduct a thorough evaluation of the cardiac effect of Panaceomycin Injection via a randomized, double-blind crossover study. A total of 100 participants (18-22 per arm) will randomize to one of five study arms to receive in a double-blind fashion a single IV infusion of either Panaceomycin Injection 10 mg/kg, Panaceomycin Injection at a supra-therapeutic dose, ciprofloxacin (positive control), or placebo. 12-Lead digital ECGs will be collected in triplicate via Holter monitor from each participant during dosing. Seven days after dosing, participants will be re-randomized to receive another treatment. ECGs will be collected and analyzed. A full statistical analysis and expert ECG report will be generated. Serum PK samples will also be collected at ECG collection time points and analyzed to confirm exposure.

Sample WBS Scope Description

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	CAP:	1.1.1 Drug Production			Month End:		3/31/2011						
Control Account Performance													
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total
BCWS		200	30	30	40	60	80	60	80	15	25	30	25	675
BCWP		10	190	60										
ACWP		12	190	60										
SV		-190	160	30										
CV		-2	0	0										
Resource Summary														
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total
Labor		10	10	10	10	10	10	10	10	10	10	10	10	120
Sub DB			20	20	30									70
Sub DP						50	70	50	70					240
Sub Pack											5	20	15	40
Material		190												190
ODC										5	10			15
BCWS		200	30	30	40	60	80	60	80	15	25	30	25	675
Work Package Summary														
	EVM	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total
Sub Contract Management	LOE	10	10	10	10	10	10	10	10	10	10	10	10	120
Purchase Materials	0/100	190												190
Manufacture Drug Susbstanc	MS		20	20	30									70
Manufacture Drug Product	MS					50	70	50	70					240
Ship	Units									5	10			15
Package & Store	Units										5	20	15	40
BCWS		200	30	30	40	60	80	60	80	15	25	30	25	675

Sample Timephased S/P/A Report

Exhibit 31.1

CERTIFICATIONS

I, Jon P. Stonehouse, certify that:

1. I have reviewed this quarterly report on Form 10-Q of BioCryst Pharmaceuticals, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 8, 2015

/s/ JON P. STONEHOUSE
Jon P. Stonehouse
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Thomas R. Staab, II, certify that:

1. I have reviewed this quarterly report on Form 10-Q of BioCryst Pharmaceuticals, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 8, 2015

/s/ THOMAS R. STAAB, II

Thomas R. Staab, II

Senior Vice President, Chief Financial Officer and Treasurer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of BioCryst Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ending March 31, 2015 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jon P. Stonehouse, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ Jon P. Stonehouse
Jon P. Stonehouse
President and Chief Executive Officer
Date: May 8, 2015

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of BioCryst Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ending March 31, 2015 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas R. Staab, II, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ Thomas R. Staab, II
Thomas R. Staab, II
Senior Vice President, Chief Financial Officer and Treasurer
Date: May 8, 2015