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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2009

Or

o TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number: 001-32587

PHARMATHENE, INC.

(Exact name of registrant as specified in its charter)

Delaware	**20-2726770**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Park Place, Suite 450, Annapolis, MD	**21401**
(Address of principal executive offices)	(Zip Code)

(410) 269-2600
(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 o

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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes o No o

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

Large Accelerated Filer o	Accelerated Filer o
Non-Accelerated Filer o (Do not check if a smaller reporting company)	Smaller Reporting Company x

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: The number of shares of the registrant's Common Stock, par value $0.0001 per share, outstanding as of August 3, 2009 was 28,427,950.

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PHARMATHENE, INC.

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PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

PHARMATHENE, INC.
UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 2009	December 31, 2008
ASSETS		
Current assets:		
Cash and cash equivalents	$ 9,272,803	$ 19,752,404
Restricted cash	1,500,000	12,000,000
Short-term investments	6,177,616	3,190,912
Accounts receivable	2,438,415	8,890,077
Other receivables (including unbilled receivables)	13,594,575	1,391,512
Prepaid expenses and other current assets	594,690	917,125
Total current assets	33,578,099	46,142,030
Long-term restricted cash	—	1,250,000
Property and equipment, net	5,909,053	5,313,219
Patents, net	908,374	925,489
Other long-term assets	252,974	220,531
Deferred costs	23,845	37,092
Goodwill	2,348,453	2,502,909
Total assets	$ 43,020,798	$ 56,391,270
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 2,573,453	$ 3,870,871
Accrued expenses and other current liabilities	11,318,882	14,624,757
Convertible notes	14,300,517	13,377,505
Current portion of derivative instruments	69,021	—
Current portion of long-term debt	2,955,264	4,000,000
	31,217,137	35,873,133
Other long-term liabilities	426,874	626,581
Derivative instruments	1,045,770	—
Long-term debt	—	928,117
Total liabilities	32,689,781	37,427,831
Stockholders' equity:		
Common stock, $0.0001 par value; 100,000,000 shares authorized; 28,070,663 and 25,890,143 shares issued and outstanding, respectively	2,807	2,589
Additional paid-in-capital	147,396,332	142,392,163
Accumulated other comprehensive (loss) income	(392,293)	386,351
Accumulated deficit	(136,675,829)	(123,817,664)
Total stockholders' equity	10,331,017	18,963,439

Total liabilities and stockholders' equity	$ 43,020,798	$ 56,391,270

See the accompanying notes to the condensed consolidated financial statements.

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PHARMATHENE, INC.
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	Three months ended June 30,		Six months ended June 30,	
	2009	2008	2009	2008
Contract revenue	$ 8,071,211	$ 11,703,448	$ 13,593,114	$ 17,522,502
Other revenue	—	—	—	21,151
	8,071,211	11,703,448	13,593,114	17,543,653
Operating expenses:				
Research and development	9,464,629	12,274,553	15,159,955	18,203,872
General and administrative	4,416,248	4,605,791	9,562,247	8,963,750
Acquired in-process research and development	—	15,906,002	—	15,906,002
Depreciation and amortization	199,699	239,914	392,177	436,017
Other expense	760,720	—	884,561	—
Total operating expenses	14,841,296	33,026,260	25,998,940	43,509,641
Loss from operations	(6,770,085)	(21,322,812)	(12,405,826)	(25,965,988)
Other income (expense)				
Interest income	92,853	362,170	197,098	833,935
Interest expense	(598,395)	(651,778)	(1,200,510)	(1,318,775)
Change in market value of derivative instruments	643,702	26,263	764,291	115,543
Total other income (expense)	138,160	(263,345)	(239,121)	(369,297)
Net loss	(6,631,925)	(21,586,157)	(12,644,947)	(26,335,285)
Basic and diluted net loss per share	$ (0.24)	$ (0.98)	$ (0.47)	$ (1.19)
Weighted average shares used in calculation of basic and diluted net loss per share	28,056,824	22,087,121	27,038,761	22,087,121

See the accompanying notes to the condensed consolidated financial statements.

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PHARMATHENE, INC.
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASHFLOWS

	2009	2008
Operating activities		
Net loss	$ (12,644,947)	$ (26,335,285)
Adjustments to reconcile net loss to net cash used in operating activities:		
Acquired in-process research and development	—	15,906,002
Change in market value of derivative instruments	(764,291)	(115,543)
Depreciation and amortization	392,177	436,017
Change in Aveicia purchase accounting	154,457	—
Share-based compensation	1,739,575	1,068,429
Non cash interest expense on debt	950,159	844,660
Changes in operating assets and liabilities:		
Accounts receivable	6,451,662	1,580,057
Prepaid expenses and other current assets	(11,899,824)	(21,122)
Accounts payable	(1,297,418)	(1,127,361)
Accrued expenses and other liabilities	3,500,823	3,675,116
Net cash used in operating activities	(13,417,627)	(4,089,030)
Investing activities		
Purchases of property and equipment	(970,896)	(339,162)
Purchase of letter of credit	—	(15,750,302)
Purchases of available-for-sale investments	(6,800,566)	(2,937,299)
Sales of available-for-sale investments	3,800,000	10,277,880
Payments for Avecia Acquisition	(7,000,000)	(11,556,117)
Net cash used in investing activities	(10,971,462)	(20,305,000)
Financing activities		
Payments of long-term debt obligations	(2,000,000)	(2,000,000)
Decrease of restricted cash requirements	11,750,000	—
Proceeds from issuance of common stock and warrants	4,924,270	—

Net cash provided by (used in) financing activities	14,674,270	(2,000,000)
Effects of exchange rates	(764,782)	(36,223)
Decrease in cash and cash equivalents	(10,479,601)	(26,430,253)
Cash and cash equivalents, at beginning of period	19,752,404	40,582,643
Cash and cash equivalents, at end of period	$ 9,272,803	$ 14,152,390

See the accompanying notes to the condensed consolidated financial statements.

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PHARMATHENE, INC.
Notes to Condensed Consolidated Financial Statements
June 30, 2009
(unaudited)

Note 1 — Organization and Business

Historically, our operations were conducted by our wholly-owned subsidiary, PharmAthene US Corporation. In March 2008, PharmAthene Inc., through its wholly-owned subsidiary PharmAthene UK Limited, acquired substantially all the assets and liabilities related to the biodefense vaccines business (the "Avecia Acquisition") of Avecia Biologics Limited (along with its affiliates, "Avecia"). In February 2009, PharmAthene US Corporation was merged with and into PharmAthene, Inc., with PharmAthene, Inc. being the surviving corporation.

We are a biopharmaceutical company focused on developing biodefense countermeasure applications. We are subject to those risks associated with any biopharmaceutical company that has substantial expenditures for research and development. There can be no assurance that our research and development projects will be successful, that products developed will obtain necessary regulatory approval, or that any approved product will be commercially viable. In addition, we operate in an environment of rapid technological change and are largely dependent on the services and expertise of its employees, consultants and other third parties.

Note 2 — Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements include the accounts of PharmAthene, Inc. and its wholly-owned subsidiaries, PharmAthene U.S. Corporation, PharmAthene Canada inc. (which was formed in March 2005), and PharmAthene UK Limited (which was formed in March 2008), collectively referred to herein as "PharmAthene", "we", "us", "our" or the "Company". All significant intercompany transactions and balances have been eliminated in consolidation.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements include all adjustments, consisting of normal recurring adjustments, which are necessary to present fairly our financial position, results of operations and cash flows. The condensed consolidated balance sheet at December 31, 2008 has been derived from audited consolidated financial statements at that date. The interim results of operations are not necessarily indicative of the results that may occur for the full fiscal year. These statements should be read in conjunction with the Consolidated Financial Statements and Notes included in our Annual Report on Form 10-K for the year ended December 31, 2008 filed with the Securities and Exchange Commission.

We currently operate in one business segment. Certain prior period amounts in the consolidated financial statements have been reclassified to conform to the current period presentation.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

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Comprehensive Income (Loss)

Comprehensive income (loss) includes the total of our net income (loss) and all other changes in equity other than transactions with owners, including (i) changes in equity for cumulative translation adjustments resulting from the consolidation of foreign subsidiaries as the financial statements of the subsidiary located outside of the United States are accounted for using the local currency as the functional currency and (ii) unrealized gains and losses on short term available-for-sale investments. Comprehensive loss for the three month periods ended June 30, 2009 and 2008 was approximately $6.7 million and $21.6 million, respectively. Comprehensive loss for the six month periods ended June 30, 2009 and 2008 was approximately $13.4 million and $26.6 million, respectively.

Basic and Diluted Net Income (Loss) Per Share

Basic income (loss) per share is computed by dividing consolidated net income (loss) by the weighted average number of common shares outstanding during the period, excluding unvested restricted stock. For the periods presented in the accompanying condensed consolidated statements of operations, diluted income (loss) per share is calculated similarly because the impact of all potentially dilutive securities is anti-dilutive due to our net loss each period. At

June 30, 2009 and 2008 we had total potential dilutive securities outstanding in the amount of approximately 20 million shares and 15 million shares, respectively (related to outstanding stock options, outstanding stock purchase warrants, shares underlying our convertible notes, and unvested restricted stock) that we excluded from the calculation of diluted net loss per share since their inclusion would be anti-dilutive.

When the effects are not anti-dilutive, diluted earnings per share is computed by dividing our net income (loss) by the weighted average number of shares outstanding and the impact of all potentially dilutive securities, consisting primarily of stock options, restricted stock grants, stock purchase warrants, restricted shares and the common shares underlying our Convertible Senior Notes.

Fair Value of Financial Instruments

Our financial instruments include primarily cash and cash equivalents, accounts receivable, short-term investments and other current assets, accounts payable, accrued and other liabilities, notes payable and long-term debt. Due to the short-term nature of the cash and cash equivalents, accounts receivable, short-term investments and other current assets, accounts payable and accrued and other liabilities, the carrying amounts of these assets and liabilities approximate their fair value. The fair value of our notes payable and long term debt approximates fair value, based on our current incremental borrowing rates.

Short-term investments consist of investment grade government agency and corporate debt securities due within one year. All investments are classified as available-for-sale and are recorded at market value. Unrealized gains and losses are reflected in other comprehensive income (loss). The estimated fair value of the available-for-sale securities is determined based on quoted market prices or rates. Management reviews the Company's investment portfolio on a regular basis and seeks guidance from its professional portfolio manager related to U.S. and global market conditions. We assess the risk of impairment related to securities held in our investment portfolio on a regular basis and noted no permanent or "other-than-temporary" impairment during the quarter and six months ended June 30, 2009. Refer also to Note 3.

Concentration of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk are primarily cash and cash equivalents, investments and accounts receivable. We maintain our cash and cash equivalents and investment balances in the form of money market accounts, corporate and government debt securities and overnight deposits with financial institutions that management believes are creditworthy. Our accounts receivables are primarily from agencies within the U.S. government, including the U.S. Department of Defense (the "DoD"), the National Institute of Allergy and Infectious Diseases ("NIAID"), the Biomedical Advanced Research and Development Authority ("BARDA"), and the National Institute of Health ("NIH"). Our policy is to provide an allowance for any amount of accounts receivable which we determine

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to be uncollectible and to write off any uncollectible account when the likelihood of that account's collection is determined to be not probable. Historically, we have found it unnecessary to provide such allowance or make such write-off of any of our accounts receivable.

Intangible Assets

Patents are carried at cost less accumulated amortization which is calculated on a straight line basis over the estimated useful lives of the patents, currently estimated to be 11 years. Goodwill represents the excess of purchase price over the fair value of net identifiable assets associated with the Avecia Acquisition. We review the carrying value of our intangible assets for impairment annually during the fourth quarter or more frequently if impairment indicators exist. Evaluating for impairment requires management judgment, including the estimation of future cash flows, future growth rates and profitability and the expected life over which cash flows will occur. Changes in the Company's business strategy or adverse changes in market conditions could impact impairment analyses and require the recognition of an impairment charge equal to the excess of the carrying value of the intangible asset over its estimated fair value. For the three and six months periods ended June 30, 2009, we determined that there was no impairment of our intangible assets.

Revenue Recognition

We generate our revenue from two different types of contractual arrangements: cost-plus-fee contracts and cost reimbursable grants. Revenues on cost-plus-fee contracts are recognized to the extent of costs incurred plus an estimate of the applicable fees earned. We consider fixed fees under cost-plus-fee contracts to be earned in proportion to the allowable costs incurred in performance of the contract. We analyze each cost reimbursable grant to determine whether we should report such reimbursements as revenue or as an offset to our expenses incurred. For the three months ended June 30, 2009 and 2008, the Company recorded approximately $0.8 million and $0.5 million, respectively, of costs reimbursed by the government as an offset to research and development expenses. For the six months ended June 30, 2009 and 2008, the Company recorded approximately $1.2 million and $0.8 million, respectively, of costs reimbursed by the government as an offset to research and development expenses.

Our contracts may include multiple elements, including one or more of up-front license fees, research payments, and milestone payments. In these situations, we allocate the total contract price to the multiple elements based on their relative fair values and recognize revenue for each element according to its characteristics.

Revenues from the achievement of research and development milestones, if deemed substantive, are recognized as revenue when the milestones are achieved and the milestone payments are due and collectible. If not deemed substantive, we recognize milestones as revenue on a straight-line basis over the remaining expected term of continued involvement in the research and development process. Milestones are considered substantive if all of the following conditions are met: (1) the milestone is non-refundable; (2) achievement of the milestone was not reasonably assured at the inception of the arrangement; (3) substantive effort is involved to achieve the milestone; and (4) the amount of the milestone appears reasonable in relation to the effort expended, the other milestones in the arrangement and the related risk associated with the achievement of the milestone and any ongoing research and development or other services are priced at fair value. Payments received in advance of work performed are recorded as deferred revenue.

Collaborative Arrangements

We are an active participant with exposure to significant risks and rewards of commercialization relating to the development of several of our pipeline products. For costs incurred and revenues generated from third parties where we are deemed to be the principal participant, we recognize revenues and costs using the gross basis of accounting; otherwise, we use the net basis of accounting.

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Research and Development

Research and development costs are expensed as incurred; advance payments are deferred and expensed as performance occurs. Research and development costs include salaries, facilities expense, overhead expenses, material and supplies, pre-clinical expense, clinical trials and related clinical manufacturing expenses, stock-based compensation expense, contract services and other outside services.

Share-Based Compensation

We expense the estimated fair value of share-based awards granted to our employees under our stock-based compensation plans. Share-based compensation cost is determined at the grant date using an option pricing model. The value of the award that is ultimately expected to vest is recognized as expense on a straight line basis over the employee's requisite service period. We have estimated the fair value of each award using the Black-Scholes option pricing model, which was developed for use in estimating the value of traded options that have no vesting restrictions and that are freely transferable. The Black-Scholes model considers, among other factors, the expected life of the award and the expected volatility of the Company's stock price.

Employee share-based compensation expense recognized for the three and six months ended June 30, 2009 and 2008 was calculated based on awards ultimately expected to vest and has been reduced for estimated forfeitures at a rate of approximately 17% for both stock options and restricted shares, based on our historical forfeitures.

Share-based compensation expense for the three and six months ended June 30, 2009 and 2008, respectively, was:

	Three months ended June 30,		Six months ended June 30,	
	2009	2008	2009	2008
Research and development	$ 207,149	$ 95,749	$ 466,469	$ 193,928
General and administrative	580,866	423,633	1,273,106	874,501
Total share-based compensation expense	$ 788,015	$ 519,382	$ 1,739,575	$ 1,068,429

Income Taxes

We account for income taxes using the asset and liability method. Under this method, deferred tax assets and liabilities are recorded for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of a tax rate change on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date. We record valuation allowances to reduce net deferred tax assets to the amount considered more likely than not to be realized. Changes in estimates of future taxable income can materially change the amount of such valuation allowances. As of June 30, 2009, we had recognized a valuation allowance to the full extent of our net deferred tax assets since the likelihood of realization of the benefit does not meet the more likely than not threshold.

We believe that any uncertain tax position taken in the past would not result in an adjustment to our effective income tax rate because adjustments to deferred tax assets and liabilities would be offset by adjustments to recorded valuation allowances. We file a U.S. federal income tax return as well as returns for various state and foreign jurisdictions. The Company's income taxes have not been subject to examination by any tax jurisdiction since its inception. Accordingly, all income tax returns filed by the Company are subject to examination by taxing jurisdictions.

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Note 3 — Fair Value Measurements

We define fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. We report our assets and liabilities that are measured at fair value using a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy maximizes the use of observable inputs and minimizes the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

- Level 1 — Quoted prices in active markets for identical assets or liabilities.
- Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.
- Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

An asset's or liability's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. At each reporting period, we perform a detailed analysis of our assets and liabilities that are measured at fair value. All assets and liabilities for which the fair value measurement is based on significant unobservable inputs or instruments which trade infrequently and therefore have little or no price transparency are classified as Level 3.

We have segregated all our financial assets and liabilities that are measured at fair value into the most appropriate level within the fair value hierarchy based on the inputs used to determine the fair value at the measurement date in the table below. We have no non-financial assets and liabilities that are measured at

fair value.

As of June 30, 2009, financial assets and liabilities subject to fair value measurements were as follows:

	as of June 30, 2009			
	Level 1	Level 2	Level 3	Balance
Assets				
Available-for-sale securities	$ 6,177,616	$ —	$ —	$ 6,177,616
Liabilities				
Stock purchase warrants	$ —	$ —	$ 1,114,791	$ 1,114,791

The following table sets forth a summary of changes in the fair value of our Level 3 liabilities for the six months ended June 30, 2009:

Description	Balance at Dec. 31, 2008	Cumulative Effect of Adoption of New Accounting Guidance	New Liabilities in 2009	Unrealized (Gains) Losses	Balance as of June 30, 2009
Conversion option	$ 6,405	$ —	$ —	$ (6,405)	$ —
Stock purchase warrants	$ —	$ 636,609	$ 1,236,067	$ (757,885)	$ 1,114,791

The unrealized losses on the derivative instruments are classified in other expenses as the change in

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derivative instruments in our condensed consolidated statement of operations. Fair value for our stock purchase warrants and conversion option is determined based on the Black-Scholes option pricing model calculation.

Note 4 - Short-Term Investments — Available-for-Sale Securities

The amortized cost, gross unrealized gains, gross unrealized losses and fair value of available-for-sale short-term investments by security classification as of June 30, 2009 were as follows:

June 30, 2009	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Values
Corporate debt securities	$ 3,556,543	$ 4,322	$ (3,562)	$ 3,557,303
Government debt securities	$ 2,618,252	$ 2,061	$ —	$ 2,620,313
Total securities	$ 6,174,795	$ 6,383	$ (3,562)	$ 6,177,616

During the six months ended June 30, 2009, we realized losses on sales of available-for-sale securities of approximately $13,000; we had no realized gains or losses during the three months ended June 30, 2009. Gains and losses on available-for-sale securities are based on the specific identification method.

Note 5 — Debt

Convertible Notes

Our senior unsecured convertible notes accrued interest at an interest rate of 8% per annum and matured on August 3, 2009 (the “Old Notes”). The principal amount of the Old Notes and any accrued interest were convertible into shares of PharmAthene common stock at the option of the holder at any time based upon a conversion rate of $10.00 per share. In July 2009, we cancelled a portion of the Old Notes, and issued new convertible notes and stock purchase warrants to holders of the cancelled notes as well as to certain new investors in a private placement (the “July 2009 Private Placement”). In August 2009, we repaid that portion of the Old Notes that elected not to participate in the July 2009 Private Placement. See Note 9 for further discussion.

Credit Facility

In March 2007, we entered into a $10 million credit facility with Silicon Valley Bank and Oxford Finance Corporation (together, the “Lenders”). Under the credit facility, we borrowed $10 million, which bears interest at a rate of 11.5% per annum. Under the terms of the credit facility, we made monthly payments of interest only through September 30, 2007 and, thereafter, we make monthly payments of principal and interest over the remaining 30 months of the loan. The loan is secured by a security interest in all of our assets other than certain intellectual property. We may prepay the debt subject to certain prepayment fees. In connection with the credit facility, we issued to the Lenders certain stock purchase warrants, which expire on March 30, 2017, to purchase an aggregate of 100,778 shares of the Company’s common stock at $3.97 per share.

In March 2008, we entered into a Consent and First Loan Modification Agreement with the Lenders (the “Loan Modification Agreement”) which, among other things, amended the loan agreement to require us to maintain, at all times, at a segregated account, at either Silicon Valley Bank or Silicon Valley Bank Securities, unrestricted and unencumbered cash or cash equivalents in the amount of at least one and one-quarter times the outstanding obligations of PharmAthene to the Lenders. In March 2009, we entered into the Second Loan Modification Agreement, pursuant to which the Lenders agreed to reduce the amount of unrestricted and unencumbered cash or cash equivalents. We are now required to maintain in the segregated account an amount equal to one-half of our outstanding obligations to them. As of June 30, 2009, the Company classified $1.5 million as short-term restricted cash under the terms of this agreement.

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In July 2009, we repaid all outstanding amounts due under the credit facility along with certain prepayment fees. See further discussion in Note 9.

Note 6 — Avecia Acquisition

Avecia Settlement Agreement

On June 17, 2009, PharmAthene and Avecia entered into a settlement agreement (i) to resolve certain issues related to the wind down and cancellation of work related to our rPA vaccine program being conducted at Avecia pursuant to a master services agreement ("MSA") between our two organizations, and (ii) to accelerate the payment of certain deferred consideration related to the Avecia Acquisition. Under the settlement agreement:

- we paid Avecia $7.0 million of the remaining deferred purchase price consideration under the Avecia Acquisition, and as a result our existing letter of credit that had supported the deferred consideration (and the related requirement to maintain restricted cash as collateral for the letter of credit) was terminated in June 2009;
- we agreed to pay Avecia approximately $1.8 million related to past performance and raw materials under the MSA subject to certain remaining performance obligations by Avecia related to, among other things, the technology transfer effort to a new U.S.-based bulk drug substance manufacturer; and
- we agreed to pay Avecia approximately $3.0 million in cancellation fees no later than January 5, 2010 (and earlier if certain other conditions are met).

In June 2009, the Company expensed as allowable costs under its government contract the $1.8 million payment for past contract performance and recognized related contract revenues. The Company expensed the $3.0 million cancellation fee in June 2009.

Contemplated Exit Activities

In the second quarter 2009, our existing research and development contract for SparVax™ was transferred from the National Institutes of Allergy and Infectious Diseases (NIAID) to the Biomedical Advanced Research and Development Authority ("BARDA"). BARDA and PharmAthene are currently modifying the existing statement of work to include, among other things, the completion of on-going stability studies and development of potency assays along with certain manufacturing scale-up and technology transfer activities to a U.S.-based manufacturer for the bulk drug substance for SparVax™.

As a result of the transfer of the contract and modification of the statement of work, we have been transitioning development and manufacturing activities as well as other general and administrative functions from the UK to the United States. In connection with this transition, we anticipate relocating our UK operations, including terminating our UK workforce and lease, by June 30, 2010.

License Agreements

In connection with the Avecia Acquisition, we acquired certain license agreements with The Defence Science and Technology Laboratory of the United Kingdom Ministry of Defence ("DSTL") for the rights to certain technologies. These agreements allow for the licensing of certain patents and technology necessary to perform development of the rPA and rYP programs as required under our contracts with NIAID. Upon commercialization, the license agreements require us to make royalty payments equal to a specified percentage of future sales of products for both government procurement and commercial markets. No payments on these licenses have been incurred. In February 2009, both of these licenses were amended and restated to broaden the scope of exclusivity and address other general business issues.

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Note 7 — Stockholders' Equity

Common Stock

In March 2009, the Company completed a public sale of 2,116,055 newly issued shares of its common stock at $2.60 per share and warrants to purchase 705,354 shares of its common stock at an exercise price of $3.00 per share, generating gross proceeds of $5.5 million. The warrants are exercisable beginning on September 27, 2009 and will expire on September 27, 2014. We intend to use the net proceeds for general corporate purposes, including the satisfaction of existing obligations.

2007 Long-Term Incentive Plan

Prior to 2007, we granted shared-based awards pursuant to our 2002 Long-Term Incentive Plan (the "2002 Plan"). In connection with the merger between the subsidiary of Healthcare Acquisition Corp. ("HAQ") and PharmAthene, Inc. on August 3, 2007 (the "Merger"), we assumed all outstanding awards that had been initially granted under the 2002 Plan. No further grants are being made under the 2002 Plan.

On August 3, 2007, our stockholders approved the 2007 Long Term Incentive Plan (the "2007 Plan") which provides for the granting of incentive and non-qualified stock options, stock appreciation rights, performance units, restricted common awards and performance bonuses (collectively "awards") to our officers and employees. Additionally, the 2007 Plan authorizes the granting of non-qualified stock options and restricted stock awards to our directors and to any independent consultants.

At that time, we reserved 3,500,000 shares of common stock in connection with awards to be granted under the 2007 Plan, including those awards that had originally been made under the 2002 Plan. In 2008, our shareholders approved proposed amendments to the 2007 Plan, increasing from 3,500,000 shares to 4,600,000 shares the maximum number of shares authorized for issuance under the plan and adding an evergreen provision pursuant to which the number of shares authorized for issuance under the plan will increase automatically in each year, beginning in 2009 and continuing through 2015, according to certain limits set forth in the 2007 Plan. The Board of Directors in conjunction with management determines who receives awards, the vesting conditions, which are generally four years, and the exercise price. Options may have a maximum term of ten years.

The following table summarizes the activity of the 2007 Plan as related to option awards (including awards originally made under the 2002 Plan):

		Weighted-Average	Weighted-Average Contractual

	Shares	Exercise Price	Term
Outstanding January 1, 2009	3,962,623	$ 4.23	8.7 years
Granted	1,102,350	$ 2.48	
Exercised	—		
Forfeited	(125,356)	$ 3.29	
Outstanding June 30, 2009	4,939,617	$ 3.86	8.5 years
Exercisable June 30, 2009	1,835,776	$ 4.44	7.9 years
Vested and expected to vest June 30, 2009	4,426,669		

The following table summarizes the activity of the 2007 Plan as related to restricted stock awards:

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	Shares	Weighted-Average Grant Price	Weighted-Average Contractual Term
Outstanding January 1, 2009	163,121	$ 5.05	8.7 years
Granted	258,633	$ 2.46	
Vested	(64,090)		
Forfeited	(2,451)		
Outstanding June 30, 2009	355,213	$ 3.62	9.0 years
Expected to vest June 30, 2009	296,463		

The fair value for our 2009 awards was estimated at the date of grant using the Black-Scholes option-pricing model using the following assumptions:

- Weighted average volatility: We determine the expected volatility of 88% in 2009 and 66% in 2008 by using an average historical volatility from comparable public companies with an expected term consistent with ours.
- Risk-free interest rate: The yield on zero-coupon US Treasury securities for a period that is commensurate with the expected term of the award. We used 2.1% in 2009 and 3.0% in 2008.
- Expected annual dividend yield: The estimate for annual dividends is zero because we have not historically paid a dividend and do not intend to do so in the foreseeable future.
- Expected life: The expected term of the awards represents the period of time that the awards are expected to be outstanding. We use historical data and expectations for the future to estimate employee exercise and post-vest termination behavior and do not stratify employees into multiple groups. We determined the expected life to be 6.3 years and 7.0 years in 2009 and 2008, respectively.

Unit Purchase Option

In connection with the initial public offering of HAQ, the underwriters paid $100 for an option to purchase up to a total of 225,000 units. The units issuable upon exercise of this option are identical to those offered in the initial public offering (i.e. each unit consists of one share of common stock and one warrant) except that the associated warrants have a different exercise price (see below). The unit purchase option became exercisable at $10.00 per unit on August 3, 2007, and expires on July 27, 2010 (except that the warrant included in such option expired unexercised on July 27, 2009). The exercise price and number of units issuable upon the exercise of the option may be adjusted in certain circumstances including in the event of a stock dividend, or recapitalization, reorganization, merger or consolidation. Under an amendment to the unit purchase option agreement, we are not obligated to pay cash or other consideration to the holders of the unit purchase option or “net-cash settle” the obligation of HAQ under the unit purchase option.

Stock Purchase Warrants

In connection with HAQ’s initial public offering in 2005, HAQ sold warrants to acquire approximately 9.4 million shares of common stock at an exercise price of $6.00 per share. The warrants expired unexercised on July 27, 2009. HAQ also issued to the representative of the underwriters an option to purchase up to a total of 225,000 units (as discussed above). Underlying the units are 225,000 shares of common stock and warrants to acquire 225,000 shares of common stock at an exercise price of $7.50 per share (which warrants expired unexercised on July 27, 2009).

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Pursuant to the terms of our credit facility, we issued to the Lenders 100,778 common stock warrants with an exercise price of $3.97 per share.

In connection with the stock purchase by Kelisia Holdings Ltd. in 2008, we issued a warrant to purchase up to 2,745,098 additional shares of our common stock at an exercise price of $5.10 per share. The exercise price of the warrant may be adjusted in certain circumstances including in the event of a stock dividend, or recapitalization, reorganization, merger or consolidation, and in certain circumstances subsequent dilutive equity issuances.

Prior to our adoption on January 1, 2009 of new accounting guidance related to the determination of derivative liabilities, we classified our stock purchase warrants as equity in our consolidated balance sheets. As a result of our adoption of the new accounting guidance, we now consider the warrant issued to Kelisia Holdings Ltd. to be a derivative liability and have reclassified the warrant to reflect it as a liability in our consolidated balance sheets. The impact of adopting this new guidance resulted in an increase in our retained deficit and a decrease to our additional paid in capital at January 1, 2009 of approximately

$213,000 and $423,000, respectively, along with an increase in our reported liabilities of approximately $637,000. The fair value of this derivative liability will be re-measured at the end of every reporting period and the change in fair value will be reported in the consolidated statement of operations as other income (expense).

In connection with the March 27, 2009 public offering of approximately 2.1 million shares, we issued warrants to purchase an aggregate of 705,354 shares of our common stock at an exercise price of $3.00 per share. The warrants will be exercisable beginning on September 27, 2009 and will expire on September 27, 2014, five years from the date they become exercisable. The exercise price of the warrants may be adjusted in certain circumstances including in the event of a stock dividend, or recapitalization, reorganization, merger or consolidation, and in certain circumstances subsequent dilutive equity issuances. We consider these warrants to be a derivative liability and as such reflect the liability at fair value in our condensed consolidated balance sheets. The fair value of this derivative liability will be re-measured at the end of every reporting period and the change in fair value will be reported in the consolidated statement of operations as other income (expense).

Warrant activity from January 1, 2009 to June 30, 2009 was as follows:

	Number of Warrants		Weighted-Average Exercise Price
Outstanding January 1, 2009	12,485,413	$	5.84
Granted	705,354	$	3.00
Forfeited	—		
Outstanding June 30, 2009	13,190,767	$	5.66

In July 2009, we issued new stock purchase warrants in connection with the July 2009 Private Placement. See Note 9 for further discussion.

Note 8 — Litigation Related to Terminated Merger Agreement

In December 2006, the Company filed a complaint against Siga Technologies, Inc. (“SIGA”) in the Delaware Chancery Court. The complaint alleges, among other things, that the Company has the right to license exclusively development and marketing rights for SIGA’s drug candidate, SIGA-246, pursuant to a merger agreement between the parties (the “Merger Agreement”) that was terminated in October 2006. The complaint also alleges that SIGA failed to negotiate in good faith the terms of such a license pursuant to the terminated merger agreement.

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The Company is seeking alternatively a judgment requiring SIGA to enter into an exclusive license agreement with the Company for SIGA-246 in accordance with the terms of the term sheet attached to the merger agreement or monetary damages. In January 2008, the Delaware Chancery Court issued a ruling denying a motion by SIGA to dismiss the compliant. The parties are now engaged in discovery. During the second quarter 2009, SIGA filed a counterclaim against the Company in the above action claiming that the Company breached its duty to engage in good-faith negotiations by, among other things, presenting SIGA with a bad-faith initial proposal for a license agreement that did not contain all necessary terms, demanding SIGA prepare a complete draft of a partnership agreement and then unreasonably rejecting that agreement, and unreasonably refusing to consider economic terms that differed from those set forth in the license agreement term sheet attached to the Merger Agreement. SIGA is seeking recovery of its reliance damages from this alleged breach.

Note 9 — Subsequent Events

In July 2009, we completed the July 2009 Private Placement, which resulted in:

- the exchange of a portion of our Old Notes in the aggregate principal amount plus accrued interest totaling $8.8 million for new two-year 10% unsecured senior convertible notes, convertible into common shares at a conversion price of $2.54 per share (the “New Convertible Notes”);
- the issuance of additional New Convertible Notes in the aggregate principal amount of $10.5 million to new investors; and
- the issuance to the recipients of the New Convertible Notes of stock purchase warrants to purchase up to 2.6 million shares of common stock at $2.50 per share, which warrants are exercisable from January 28, 2010 through January 28, 2015.

We used the proceeds from the sale of the New Convertible Notes to repay $5.5 million of our Old Notes due August 3, 2009 that were not exchanged for New Convertible Notes and repaid all outstanding amounts and fees under our existing senior secured credit facility.

In the second quarter 2009, our existing research and development contract for SparVax™ was transferred from NIAID to BARDA. BARDA and PharmAthene are currently modifying the existing statement of work to include, among other things, the completion of on-going stability studies and development of potency assays along with certain manufacturing scale-up and technology transfer activities to a U.S.-based manufacturer for the bulk drug substance for SparVax™. As a result of the transfer of the contract and modification of the statement of work, we have been transitioning development and manufacturing activities as well as other general and administrative functions from the UK to the United States. In connection with this transition, we expect to relocate our UK operations, including terminating our UK workforce, by June 30, 2010, and will incur costs associated with these exit activities beginning in the third quarter 2009.

Management performed an evaluation of Company activity through August 13, 2009, the date the unaudited condensed consolidated financial statements were issued. The Company concluded that there are no other significant subsequent events requiring disclosure.

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

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. This information may involve known and unknown risks, uncertainties and other factors

that are difficult to predict and may cause our actual results, performance or achievements to be materially different from future results, performance or achievements expressed or implied by any forward-looking statements. These risks, uncertainties and other factors include, but are not limited to, risk associated with the reliability of the results of the studies relating to human safety and possible adverse effects resulting from the administration of the Company's product candidates, unexpected funding delays and/or reductions or elimination of U.S. government funding for one or more of the Company's development programs, including without limitation our bid related to SparVax™ under the DHHS Request for Proposals for an Anthrax Recombinant Protective Antigen (rPA) Vaccine for the Strategic National Stockpile, the award of government contracts to our competitors, unforeseen safety issues, challenges related to the development, technology transfer, scale-up, and/or process validation of manufacturing processes for our product candidates, unexpected determinations that these product candidates prove not to be effective and/or capable of being marketed as products, as well as risks detailed from time to time in PharmAthene's Forms 10-K and 10-Q under the caption "Risk Factors" and in its other reports filed with the U.S. Securities and Exchange Commission (the "SEC"). Forward-looking statements describe management's current expectations regarding our future plans, strategies and objectives and are generally identifiable by use of the words "may," "will," "should," "expect," "anticipate," "estimate," "believe," "intend," "project," "potential" or "plan" or the negative of these words or other variations on these words or comparable terminology. Such statements include, but are not limited to, statements about potential future government contract or grant awards, potential payments under government contracts or grants, potential regulatory approvals, future product advancements, anticipated financial or operational results and expected benefits from our acquisition of the biodefense vaccines business ("Avecia Acquisition") from Avecia Biologics Limited and certain of its affiliates ("Avecia"). Forward-looking statements are based on assumptions that may be incorrect, and we cannot assure you that the projections included in the forward-looking statements will come to pass.

We have based the forward-looking statements included in this Quarterly Report on Form 10-Q on information available to us on the date of this Quarterly Report, and we assume no obligation to update any such forward-looking statements. Although we undertake no obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise, you are advised to consult any additional disclosures that we may make directly to you or through reports that we, in the future, may file with the SEC, including Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K.

The following discussion should be read in conjunction with the our condensed consolidated financial statements which present our results of operations for the three and six months ended June 30, 2009 and 2008 as well as our financial positions at June 30, 2009 and December 31, 2008, contained elsewhere in this Quarterly Report on Form 10-Q. The following discussion should also be read in conjunction with the Annual Report on Form 10-K for the year ended December 31, 2008 filed on March 31, 2009 and as amended on April 30, 2009, including the consolidated financial statements contained therein. Unless specifically noted otherwise, as used throughout this Quarterly Report on Form 10-Q, "the Company", "PharmAthene", "we", "us" or "our" refers to the business of the combined company after the merger with Former PharmAthene (the "Merger") and to the business of Former PharmAthene prior to the Merger, and "HAQ" refers to the business of Healthcare Acquisition Corp. prior to the Merger.

Overview

We are a biodefense company engaged in the development and commercialization of medical countermeasures against biological and chemical weapons. We currently have five product candidates in various stages of development:

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- SparVax™ - a second generation recombinant protective antigen ("rPA") anthrax vaccine,
- Valortim®, a fully human monoclonal antibody (an identical population of highly specific antibodies produced from a single clone) for the prevention and treatment of anthrax infection,
- Protexia®, which mimics a natural bioscavenger for the treatment or prevention of nerve agent poisoning by organophosphate compounds, including nerve gases and pesticides,
- RypVax™ - a recombinant dual antigen vaccine for pneumonic and bubonic plague ("rYP"), and
- a third generation rPA anthrax vaccine.

Recent Events

Avecia Settlement Agreement

On June 17, 2009, PharmAthene and Avecia entered into a settlement agreement (i) to resolve certain issues related to the wind down and cancellation of work related to our rPA vaccine program being conducted at Avecia pursuant to a master services agreement ("MSA") between our two organizations, and (ii) to accelerate the payment of certain deferred consideration related to the Avecia Acquisition. Under the settlement agreement:

- we paid Avecia $7.0 million of the remaining deferred purchase price consideration under the Avecia Acquisition, and as a result our existing letter of credit that had supported the deferred consideration (and the related requirement to maintain restricted cash as collateral for the letter of credit) was terminated in June 2009;
- we agreed to pay Avecia approximately $1.8 million related to past performance and raw materials under the MSA subject to certain remaining performance obligations by Avecia related to, among other things, the technology transfer effort to a new U.S.-based bulk drug substance manufacturer; and
- we agreed to pay Avecia approximately $3.0 million in cancellation fees no later than January 5, 2010 (and earlier if certain other conditions are met).

In June 2009, the Company expensed as allowable costs under its government contract the $1.8 million payment for past contract performance, and recognized related contract revenues. The Company expensed the $3.0 million cancellation fee in June 2009.

Contemplated Exit Activities

In the second quarter 2009, our existing research and development contract for SparVax™ was transferred from the National Institutes of Allergy and Infectious Diseases (NIAID) to the Biomedical Advanced Research and Development Authority ("BARDA"). BARDA and PharmAthene are currently

modifying the existing statement of work to include, among other things, the completion of on-going stability studies and development of potency assays along with certain manufacturing scale-up and technology transfer activities to a U.S.-based manufacturer for the bulk drug substance for SparVax™. As a result of the transfer of the contract and modification of the statement of work, we have been transitioning development and manufacturing activities as well as other general and administrative functions from the UK to the United States. In connection with this transition, we anticipate relocating our UK operations, including terminating our UK workforce, by June 30, 2010.

Subsequent Financing

In July 2009, we cancelled a portion of our then outstanding 8% senior unsecured convertible notes, due August 3, 2009 (the "Old Notes") and issued new convertible notes and stock purchase warrants to holders of the cancelled notes as well as to certain new investors in a private placement (the "July 2009 Private Placement"). The July 2009 Private Placement resulted in:

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- the exchange of a portion of our Old Notes in the aggregate principal amount plus accrued interest totaling $8.8 million for new two-year 10% unsecured senior convertible notes, convertible into common shares at a conversion price of $2.54 per share (the "New Convertible Notes");
- the issuance of additional New Convertible Notes in the aggregate principal amount of $10.5 million to new investors; and
- the issuance to the recipients of the New Convertible Notes of stock purchase warrants to purchase up to 2.6 million shares of common stock at $2.50 per share, which warrants are exercisable from January 28, 2010 through January 28, 2015.

Of the $8.8 million in aggregate principal amount plus accrued interest of Old Notes exchanged for New Convertible Notes, $5.5 million were exchanged by MPM BioVentures III, L.P. and certain of its affiliated funds, $2.1 million were exchanged by HealthCare Ventures VII, L.P. and approximately $102,000 were exchanged by certain of our directors and officers. Of the $10.5 million in aggregate principal amount of New Convertible Notes sold to new investors, $1.0 million was purchased by the spouse of the Chairman of our Board, John Pappajohn, $1.0 million was purchased by our director Derace Schaffer, and an additional approximately $28,000 was purchased by certain of our other directors and officers. We used the proceeds from the sale of the New Convertible Notes to repay $5.5 million of our Old Notes due August 3, 2009 that were not exchanged for New Convertible Notes and repaid all outstanding amounts and fees under our existing senior secured credit facility.

Critical Accounting Policies

Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the U.S. requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. We base our estimates and assumptions on historical experience and various other factors that are believed to be reasonable under the circumstances. Actual results could differ from our estimates and assumptions. We believe the following critical accounting policies, among others, affect our more significant estimates and assumptions and require the use of complex judgment in their application.

Share-Based Payments

We expense all share-based awards to employees, including grants of employee stock options, based on their estimated fair value at date of grant. Costs of all share-based payments are recognized over the requisite service period that an employee must provide to earn the award (i.e. usually the vesting period) and charged to the functional operating expense associated with that employee.

Revenue Recognition

We generate our revenue from two different types of contractual arrangements: cost-plus-fee contracts and cost reimbursable grants. Revenues on cost-plus-fee contracts are recognized to the extent of costs incurred plus an estimate of the applicable fees earned. We consider fixed fees under cost-plus-fee contracts to be earned in proportion to the allowable costs incurred in performance of the contract. We analyze each cost reimbursable grant to determine whether we should report such reimbursements as revenue or as an offset to our expenses incurred .

Our contracts may include multiple elements, including one or more of up-front license fees, research payments, and milestone payments. In these situations, we allocate the total contract price to the multiple elements based on their relative fair values and recognize revenue for each element according to its characteristics.

Revenues from the achievement of research and development milestones, if deemed substantive, are recognized as revenue when the milestones are achieved and the milestone payments are due and collectible. If not deemed substantive, we recognize such milestone as revenue on a straight-line basis over the remaining expected term of continued involvement in the research and development process. Milestones are considered substantive if all of the following conditions are met; (1) the milestone is non-refundable; (2) achievement of the milestone was not reasonably assured at the inception of the arrangement; (3) substantive effort is involved to achieve the milestone; and (4) the amount of the

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milestone appears reasonable in relation to the effort expended, the other milestones in the arrangement and the related risk associated with the achievement of the milestone and any ongoing research and development or other services are priced at fair value. Payments received in advance of work performed are recorded as deferred revenue.

Research and Development Expenses

Research and development costs are expensed as incurred; advance payments are deferred and expensed as performance occurs. Research and development costs include salaries, facilities expense, overhead expenses, material and supplies, pre-clinical expense, clinical trials and related clinical manufacturing expenses, stock-based compensation expense, contract services and other outside services.

Intangible Assets

When we acquire development products, we allocate the purchase price, including acquisition expenses and assumed liabilities, to tangible and intangible assets, including goodwill. The portion allocated to intangible assets may be allocated to trademarks, patents and other intangibles. We estimate the useful lives of the assets by considering the remaining life of the patents, estimated future introductions of competing products, and other related factors.

Because of the nature of pharmaceutical research, and particularly because of the difficulties associated with efficacy studies in humans related to the bioterrorist products with which we work and the government's related funding provisions, factors that affect the estimate of the life of the asset are often more uncertain than other non-bioterrorist pharmaceutical research. On an annual basis, we assess recoverability of intangibles from future operations, using undiscounted future cash flows derived from the intangible assets. Any impairment would be recognized in operating results to the extent the carrying value exceeds the fair value, which is determined based on the net present value of estimated future cash flows; in certain situations, where the carrying value is dependent upon the outcome of a single study and that study is unsuccessful, that impairment may be significant in amount and immediate in timing.

Results of Operations for the Three and Six Months ended June 30, 2009 and 2008

Revenue

We recognized revenues of $8.1 million and $11.7 million during the three months ended June 30, 2009 and 2008, respectively. We recognized revenues of $13.6 million and $17.5 million during the six months ended June 30, 2009 and 2008, respectively.

Our revenues consisted primarily of contract funding from the U.S. government for the development of Protexia®, SparVax™ and Valortim®. Our revenues in each of the three and six months ended June 30, 2009 changed from the comparable periods of 2008 due to the following:

- Under the September 2006 contract for the advanced development of Protexia®, we recognized $3.0 million and $7.7 million of revenue for the three months ended June 30, 2009 and 2008, respectively. We recognized $5.3 million and $13.3 million of revenue for the six months ended June 30, 2009 and 2008, respectively. The decline in revenue in 2009 is primarily attributable to the shift of our Protexia® program from pre-clinical development effort to clinical evaluation, and the resulting lower costs associated with the on-going Phase I clinical trial.

- Under the September 2007 contract for the advanced development of Valortim®, we recognized $1.6 million and $0.2 million of revenue for the three months ended June 30, 2009 and 2008, respectively. We recognized $2.2 million and $0.4 million of revenue for the six months ended June 30, 2009 and 2008, respectively. The increase in revenue for both the

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three and six month periods is primarily attributable to the reimbursement of higher costs related to pre-clinical studies as well other development work in the 2009 periods as we prepared for human clinical trials, planned to commence during the third quarter 2009.

- Under our contract for the development of SparVax™, acquired as part of the Avecia Acquisition in April 2008, we recognized approximately $2.9 million and $2.3 million of revenue for the three months ended June 30, 2009 and 2008, respectively. We recognized $4.9 million and $2.3 million of revenue for the six months ended June 30, 2009 and 2008, respectively. The increase in revenue for both periods is primarily attributable to increased costs incurred in connection with our June 2009 settlement agreement with Avecia, including $1.8 million related to past performance and raw materials under the MSA, along with increased development activities on the program. Furthermore, the six months ended June 30, 2008 only includes revenue earned after April 2, 2008, the closing date of the Avecia Acquisition.

- Under our contract for the advanced development of a plague vaccine, RypVax™, acquired as part of the Avecia Acquisition in April 2008, we recognized approximately $0.5 million and $1.5 million of revenue for the three months ended June 30, 2009 and 2008, respectively. We recognized $0.8 million and $1.5 million of revenue for the six months ended June 30, 2009 and 2008, respectively. The decline in revenue in both periods is primarily attributable to reduction in development activities in the later periods as the Company focused on product release testing. The six months ended June 30, 2008 only includes revenue earned after April 2, 2008, the closing date of the Avecia Acquisition.

- Under our September 2008 contract award for the additional development work on our third generation rPA anthrax vaccine, we recognized approximately $0.1 million and $0.4 million of revenue for the three and six months ended June 30, 2009, respectively, and none in the corresponding periods of 2008, as we began work under this contract in 2009.

Research and Development Expenses

Our research and development expenses were $9.5 million and $12.3 million for the three months ended June 30, 2009 and 2008, respectively, and were $15.2 million and $18.2 million for the six months ended June 30, 2009 and 2008, respectively. These expenses resulted from research and development activities related to programs for Valortim® and Protexia®, as well as from activities related to the SparVax™, RypVax™ and third generation anthrax vaccine programs. Our research and development expenses are primarily funded through U.S. government contracts and grant awards. We incurred both direct expenses, which included salaries and other costs of personnel, raw materials and supplies, and an allocation of indirect expenses. We also incurred third-party costs, such as contract research, consulting and clinical development costs for individual projects. Research and development expenses for the three and six months ended June 30, 2009 were net of cost reimbursements under certain of our government grants of $0.8 million and $1.2 million, respectively. Research and development expenses for the three and six months ended June 30, 2008 were net of cost reimbursements under certain of our government grants of $0.5 million and $0.8 million, respectively.

Research and development expenses for the three and six months ended June 30, 2009 and 2008 were attributable to research programs as follows:

($'s in millions)	Three months ended June 30, 2009	Three months ended June 30, 2008	Six months ended June 30, 2009	Six months ended June 30, 2008
Anthrax therapeutic and vaccines	$ 7.0	$ 5.5	$ 9.7	$ 7.5
Chemical nerve agent protectants	1.9	4.6	4.4	8.2
Recombinant dual antigen plague vaccine	0.6	1.9	0.9	1.9
Internal research and development	—	0.3	0.2	0.6
Total research and development expenses	$ 9.5	$ 12.3	$ 15.2	$ 18.2

For the three and six months ended June 30, 2009 and 2008, research and development expenses decreased $2.8 million and $3.0 million, respectively, primarily attributable to a reduction in pre-clinical development costs for our chemical nerve agent protectants program as we progress in our clinical evaluation phase, and a reduction in development costs for our plague vaccine program, partially offset by increased pre-clinical development associated with our anthrax-related therapeutics and vaccines programs. The decrease in development expenses related to the clinical nerve agent protectants program resulted from reduced process development and manufacturing activities as the program moved from the development stage to the Phase I clinical trial. Expenses in connection with the anthrax therapeutics and vaccines programs increased primarily as a result of increased pre-clinical development activity in 2009 as we prepared for human clinical trials later in 2009, along with increased costs incurred in connection with our June 2009 settlement agreement with Avecia.

General and Administrative Expenses

General and administrative functions include executive management, finance and administration, government affairs and regulations, corporate development, human resources, legal, and compliance. For each function, we may incur direct expenses such as salaries, supplies and third-party consulting and other external costs and non-cash expenditures such as expense related to stock option and restricted share awards. An allocation of indirect costs such as facilities, utilities and other administrative overhead is also included in general and administrative expenses.

Expenses associated with general and administrative functions were $4.4 million and $4.6 million for the three months ended June 30, 2009 and 2008, and were $9.6 million and $9.0 million for the six months ended June 30, 2009 and 2008, respectively.

General and administrative expenses were essentially flat for the three months ended June 30, 2009 and increased $0.6 million for the six months of 2009 as compared to the same period in 2008. The $0.6 million increase was primarily due to increased consulting and legal services associated with compliance and operating as a publicly traded entity, costs related to preparing and submitting various bids and proposals and litigation efforts, along with increased stock-based compensation costs of $0.4 million during the six-month period. These increases were partially offset by reduced travel and other administrative overhead costs.

Depreciation and Intangible Amortization

Depreciation and amortization expenses were $0.2 million for both the three months ended June 30, 2009 and 2008, respectively, and were $0.4 million for both the six months periods. Depreciation expenses relate primarily to farm building improvements, leasehold improvements related to newly leased office space and laboratory equipment. Amortization expense relates to patents acquired as part of the 2005 acquisition of Nexia Biotechnologies.

Other Income and Expenses

Other income and expenses primarily consists of income on our investments, interest expense on our debt and other financial obligations, changes in market value of our derivative financial instruments and foreign currency transaction gains or losses. For the three months ended June 30, 2009 and 2008, we recognized interest income of $0.1 million and $0.4 million, respectively. For the six months ended June 30, 2009 and 2008, we recognized interest income of $0.2 million and $0.8 million, respectively. The decrease in interest income during the periods is primarily attributable to the reduced average balances of our investment as we continue to use cash to support our operations, along with lower prevailing interest rates.

We incurred interest expense of $0.6 million and $0.7 million for the three months ended June 30, 2009 and 2008, respectively, and $1.2 million and $1.3 million for the six month periods. Interest expense relates primarily to our outstanding Old Notes and our senior secured credit facility.

The change in the fair value of the derivative liability associated with our warrants was $0.6 million and $0.8 million for the three and six months ended June 30, 2009, respectively. This liability resulted from the adoption of new accounting guidance in the first quarter of 2009 and related to our warrants issued in October 2008 being reclassified from equity to a derivative liability, along with the accounting for the conversion option embedded in our convertible notes. The new accounting guidance was adopted using the cumulative catch-up method; accordingly, there was no such change in value in 2008 prior to adoption. Additionally, the warrants issued in March 27, 2009 with a value of $1.2 million were recorded as a liability. The total fair market value of these warrants was $1.1 million at June 30, 2009.

Liquidity and Capital Resources

Overview

Our primary cash requirements through the end of 2010 are to fund our research and development programs, pay our debt service costs and support our general and administrative activities. Our future capital requirements will depend on many factors, including, but not limited to, the progress of our research and development programs; the progress of pre-clinical and clinical testing; the time and cost involved in obtaining regulatory approval; the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; changes in our existing research relationships, competing technological and marketing developments; our ability to establish collaborative arrangements and to enter into licensing agreements and contractual

arrangements with others; and any future change in our business strategy. These cash requirements could change materially as a result of shifts in our business and strategy.

Since our inception, we have not generated positive cash flows from operations. To bridge the gap between payments made to us under our government contracts and grants and our operating and capital needs, we have had to rely on a variety of financing sources, including the issuance of equity securities and convertible notes, proceeds from loans and other borrowings, and the trust funds obtained in the Merger. For the foreseeable future, we will continue to need to utilize these types of financing vehicles and potentially others to help fund our future operating and capital requirements. We believe that the funds obtained from the recent convertible debt financing we completed in July 2009 along with existing cash resources will be sufficient to enable us to fund our existing research and development programs, pay our debt service costs and support our currently anticipated general and administrative activities through the end of 2010. We have based this projection on our current and anticipated operations, which do not take into account any potential future government contracts that may be awarded to the Company, merger & acquisition or corporate partnering activities, or unexpected financial obligations.

The current turmoil affecting the banking system and financial markets and the possibility that financial institutions may consolidate or cease operations has resulted in a tightening in the credit markets, a low level of liquidity in many financial markets, and extreme volatility in fixed income, credit, currency and equity markets. As a result, there can be no assurance that future funding will be available to us on reasonably acceptable terms, or at all. In addition, due to the United States government's substantial efforts to stabilize the economy, the U.S. government may be forced or choose to reduce or delay spending in the

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biodefense field, which could decrease the likelihood of future government contract awards, the likelihood that the government will exercise its right to extend any of its existing contracts with us and/or the likelihood that the government would procure products from us. Finally, the note and warrant purchase agreement entered into in connection with the July 2009 Private Placement limits us from incurring senior indebtedness (other than trade payables) in excess of $10 million without the prior written approval of no less than a majority of the aggregate principal amount of the New Convertible Notes then outstanding.

We have incurred cumulative net losses and expect to incur additional losses in conducting further research and development activities. We do not have commercial products and, given the substantial costs relating to the development of pharmaceutical products, have relatively limited existing capital resources. Our plans with regard to these matters include continued development of our products as well as seeking additional funds to support our research and development efforts. Although we continue to pursue these plans, there is no assurance that we will be successful in obtaining sufficient future financing on commercially reasonable terms or at all or that we will be able to secure additional funding through government contracts and grants. Our condensed consolidated financial statements have been prepared on a basis which assumes that we will continue as a going concern and which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business and do not include any adjustments that might result if the carrying amount of recorded assets and liabilities are not realized.

Sources and Uses of Cash

Cash, cash equivalents and short-term available-for-sale investments were $15.5 million and $22.9 million at June 30, 2009 and December 31, 2008, respectively. The $7.4 million decrease in the first six months of 2009 primarily was attributable to the funding of our operations and servicing and repayment of our debt, offset in part by the March 2009 public sale of common stock (for net proceeds of approximately $4.9 million).

On March 27, 2009, we closed on the public sale of 2,116,055 newly issued shares of our common stock at $2.60 per share and warrants to purchase 705,354 shares of our common stock at an exercise price of $3.00 per share, resulting in net proceeds of approximately $4.9 million. The warrants are exercisable beginning on September 27, 2009 and will expire on September 27, 2014. We intend to use the net proceeds for general corporate purposes, including the satisfaction of existing obligations.

Upon the closing of the Avecia Acquisition, in addition to certain initial consideration paid at that time, we also provided a letter of credit in the amount of $7 million as security for deferred consideration in that same amount. Pursuant to the settlement agreement with Avecia entered into as of June 17, 2009, we paid the $7 million deferred consideration to Avecia during the second quarter 2009 (in connection with which the letter of credit securing such amount was terminated and the required cash restrictions eliminated).

Operating Activities

Net cash used in operating activities was $13.4 million and $4.1 million for the six months ended June 30, 2009 and 2008, respectively. Cash used in operations during the six months ended June 30, 2009 reflects a net loss, after the effect of non-cash adjustments, of $10.1 million, a decrease in accounts receivable of $6.5 million, an increase in other assets (primarily in unbilled receivables associated with our government contracts which we expect to bill in the third quarter) of $11.9 million, and an increase in accrued expenses and accounts payable of $2.2 million (primarily in accrued expenses associated with our settlement agreement with Avecia). Non-cash adjustments for the six months ended June 30, 2009 included non-cash stock compensation expense of $1.7 million and the change in the fair value of our derivative liabilities of $0.8 million.

Cash used in operations for the six months ended June 30, 2008 reflects a net loss after the effect of non-cash adjustments of $8.2 million, an increase in accounts receivable of $1.6 million, and an increase in accrued expenses and accounts payable of $2.5 million. Non-cash adjustments for the six months ended

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June 30, 2008 included a write off of acquired in process research and development of $15.9 million as a result of the Avecia Acquisition and stock compensation expense of $1.1 million. Accounts receivable increased due to contract award receivables due from the DoD related to increased activities related to the advanced development of Protexia® and from NIAID related to the further development of SparVax™ and RypVax™ under contracts acquired in the second quarter of 2008 as part of the Avecia acquisition. Accounts payable and accrued expenses increased due to increased development activities primarily related to SparVax™ and RypVax™, compliance related activities and approximately $0.8 million for performance based employee bonuses.

Investing Activities

Net cash used in investing activities was $11.0 million for the six months ended June 30, 2009, compared to $20.3 million for the six months ended June 30, 2008. Investing activities for the first six months of 2009 related primarily to the payment in June of $7.0 million of deferred purchase consideration to Avecia, purchases, net of sales, of available for sale securities of $3.0 million and approximately $1.0 million of capital expenditures.

In the first half of 2008 and in connection with the Avecia Acquisition, we paid $10.0 million to Avecia and funded a $7.0 million letter of credit. In order to fund the transaction and the restricted cash obligations pursuant to the Loan Modification Agreement, approximately $10.3 million of available-for-sale securities were sold. Additionally, during the first six months of 2008, the Company incurred approximately $1.6 million related to transactions costs incurred as a result of the Avecia Acquisition.

Financing Activities

Net cash provided by financing activities was $14.7 million for the six months ended June 30, 2009 as compared to net cash used by financing activities of $2.0 million for the six months ended June 30, 2008. In March 2009, we raised net proceeds of approximately $4.9 million as a result of the public sale of shares of our common stock and warrants. Additionally, pursuant to the payment to Avecia of the deferred purchase consideration and the modification of our senior secured credit facility, we reduced our restricted cash obligations by $11.8 million. We made principal repayments of $2.0 million under the credit facility for the six months ended June 30, 2009.

Net cash used by financing activities was $2.0 million for the six month period ended June 30, 2008. We made principal repayments of $2.0 million under outstanding credit facilities for the six months ended June 30, 2008.

Subsequent Financing

As described in more detail under "—Recent Events—Subsequent Financing," in July 2009, we issued convertible notes in the aggregate principal amount of $19.3 million. Interest on these notes will accrue at a rate of 10% per year. Principal and interest are due at maturity on July 28, 2011.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Contractual Obligations

The following are contractual commitments at June 30, 2009 associated with leases, research and development arrangements, collaborative development obligations and long term debt:

Contractual Obligations ($ in thousands) (1)	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 years
Operating facility leases	$ 6,453	$ 944	$ 2,271	$ 2,416	$ 822
Research and development agreements	20,614	14,553	6,061	—	—
Notes payable, including interest	17,087	17,087	—	—	—
Total contractual obligations	$ 44,154	$ 32,584	$ 8,332	$ 2,416	$ 822

(1) This table does not include any royalty payments of future sales of products subject to license agreements the Company has entered into in relation to its in-licensed technology, as the timing and likelihood of such payments are not known.

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Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Not applicable.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of the end of the period covered by this report. Based on this evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosures.

Changes in Internal Control Over Financial Reporting

Management has identified several changes in our internal controls over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) that occurred during 2009 that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting, including (i) the resignation of our financial reporting manager during the second quarter 2009, (ii) our reliance on external financial consultants to provide a significant portion of our internal accounting functions and financial reporting; and (iii) our implementation of a new financial accounting system. We are in the process of completing but have not yet completed our internal documentation of all the changes in our internal controls over financial reporting.

To specifically address the changes identified in our internal controls over financial reporting as of June 30, 2009, we developed and performed additional analytical and substantive procedures during our quarter closing process. Management believes that these additional procedures provide reasonable assurance that our condensed consolidated financial statements as of and for the three and six months ended June 30, 2009, are fairly stated in all material respects in accordance with generally accepted accounting principles in the United States.

Inherent Limitations on Disclosure Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

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PART II — OTHER INFORMATION

Item 1. Legal Proceedings.

In December 2006, we filed a complaint against SIGA in the Delaware Chancery Court. The complaint alleges, among other things, that we have the right to license exclusively development and marketing rights for SIGA's drug candidate, SIGA-246, pursuant to the Merger Agreement that was terminated in October 2006. The complaint also alleges that SIGA failed to negotiate in good faith the terms of such a license pursuant to the terminated Merger Agreement. We are seeking alternatively a judgment requiring SIGA to enter into an exclusive license agreement with us for SIGA-246 in accordance with the terms of the term sheet attached to the Merger Agreement or monetary damages. In January 2008, the Delaware Chancery Court issued a ruling denying a motion by SIGA to dismiss the complaint. The parties are now engaged in discovery. During the second quarter of 2009, SIGA filed a counterclaim against us in the above action claiming that we breached our duty to engage in good-faith negotiations by, among other things, presenting SIGA with a bad-faith initial proposal for a license agreement that did not contain all necessary terms, demanding that SIGA prepare a complete draft of a partnership agreement and then unreasonably rejecting that agreement, and unreasonably refusing to consider economic terms that differed from those set forth in the license agreement term sheet attached to the Merger Agreement. SIGA is seeking recovery of its reliance damages from this alleged breach.

Item 1A. Risk Factors

Investing in our securities involves risks. In addition to the other information in this quarterly report on Form 10-Q, stockholders and potential investors should carefully consider the risks described below relating to investment in our common stock. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also impair our business operations. If any of the following risks actually occur, our business, financial condition and/or results of operations could be materially adversely affected, the trading price of our common stock could decline and a stockholder could lose all or part of his or her investment.

Risk Related to Request for Proposal RFP-BARDA-08-15

If we do not receive the award by the U.S. Department of Health and Human Services (the "DHHS") for an rPA anthrax vaccine, we likely will need to curtail our operations significantly and we may be placed at a competitive disadvantage in the biodefense industry.

On February 29, 2008, the DHHS issued a formal Request for Proposal (RFP-BARDA-08-15) for an "Anthrax Recombinant Protective Antigen (rPA) Vaccine for the Strategic National Stockpile," which includes a requisition for 25 million doses of an rPA anthrax vaccine. We submitted a response to this solicitation on July 31, 2008. While the original solicitation indicated that an award would be made by September 26, 2008, which was later extended to December 31, 2008, DHHS subsequently delayed the award date further because, among other things, of a protest filed by a bidder that had been eliminated from further consideration under the solicitation. The U.S. General Accounting Office (the "GAO") subsequently denied that protest. On April 15, 2009, DHHS issued an amendment to the RFP requiring that each bidder submit by April 30, 2009 a comprehensive plan to the FDA outlining the bidder's regulatory strategy for the rPA anthrax vaccine to be developed under a contract should one be awarded under the solicitation. Pursuant to an amendment dated April 22, 2009, DHHS further extended the submission deadline to June 15, 2009. On July 9, 2009, the Company announced that the FDA completed its review of the Company's proposed development plan for SparVax™, and the Company has shared the FDA's feedback with BARDA as required by these two amendments. Timing for an award under this solicitation remains uncertain. There can be no assurance that DHHS will not again extend the timeline for issuing an award, add other requirements, or that the Company will be awarded a contract under that solicitation.

We are currently aware of at least one other bidder for the award with substantially greater financial and other resources, manufacturing capabilities and commercialization capabilities than we have. Because the U.S. government is currently the only customer for our product candidates, if we fail to receive the award for the rPA anthrax vaccine, we could be forced to abandon or severely curtail our efforts with respect to our lead product candidate, SparVax™, which, in turn, could place us at a competitive disadvantage. We have been engaged in discussions with DHHS with respect to our ability to satisfy the requirements of the RFP. DHHS has requested additional information that, if not determined by them to be satisfactory, could result in our elimination from consideration for procurement. No assurances can be given that DHHS will make an award to us or that if made, it will not include substantial conditions, that we can satisfy all of these conditions or that we can begin to receive any proceeds from any such award within any specific period of time. In any event, we still have not completed development of SparVax™ and our ability to recognize any meaningful proceeds from the sale of SparVax™ will still depend upon our completing the development and testing of such product.

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Risks Related to Our Financial Condition

We have a history of losses and negative cash flow, anticipate future losses and negative cash flow, and cannot provide assurances that we will achieve profitability.

We have incurred significant losses since we commenced operations. For the three and six months ended June 30, 2009, we incurred operating losses of approximately $6.8 million and $12.4 million respectively and had an accumulated deficit of approximately $136.7 million at June 30, 2009. Our losses to date have resulted principally from research and development costs related to the development of our product candidates, general and administrative costs related to operations, and costs related to the Avecia Acquisition.

Our likelihood for achieving profitability will depend on numerous factors, including success in:

- developing our existing products and developing and testing new product candidates;
- carrying out our intellectual property strategy;
- establishing our competitive position;
- pursuing third-party collaborations;
- acquiring or in-licensing products;
- receiving regulatory approvals;
- manufacturing and marketing products; and
- continuing to receive government funding and identifying new government funding opportunities.

Many of these factors will depend on circumstances beyond our control. We cannot guarantee that we will achieve sufficient revenues for profitability. Even if we do achieve profitability, we cannot guarantee that we can sustain or increase profitability on a quarterly or annual basis in the future. If revenues grow more slowly than we anticipate, or if operating expenses exceed our expectations or cannot be adjusted accordingly, then our business, results of operations, financial condition and cash flows will be materially and adversely affected. Because our strategy might include acquisitions of other businesses, acquisition expenses and any cash used to make these acquisitions will reduce our available cash. While we believe that funds received from the recent convertible debt financing we completed in July 2009 along with existing cash resources will be sufficient to enable us to fund our existing research and development programs, pay our debt service costs and support our currently anticipated general and administrative activities through the end of 2010, there can be no assurance that unexpected financial obligations or other activities that increase our use of cash will not result in our depleting our cash resources quicker than presently anticipated. Furthermore, if we receive the award from DHHS for advanced development and procurement of SparVax™, we would be obligated to make $10 million in milestone payments to Avecia within 90 days of the receipt of such award.

The current turmoil affecting the banking system and financial markets and the possibility that financial institutions may consolidate or cease operations has resulted in a tightening in the credit markets, a low level of liquidity in many financial markets and extreme volatility in fixed income, credit, currency and equity markets. As a result, there can be no assurances that we will be successful in obtaining sufficient financing on commercially reasonable terms or at all. Our requirements for additional capital may be substantial and will be dependent on many factors, including the success of our research and development

efforts, our ability to commercialize and market products, our ability to successfully pursue our licensing and collaboration strategy, the receipt of continued government funding, competing technological and marketing developments, costs associated with the protection of our intellectual property and any future change in our business strategy.

To the extent that we raise additional capital through the sale of securities, the issuance of those securities would result in dilution that could be substantial to our stockholders. In addition, if we incur additional debt financing, a substantial portion of our operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting funds available for our business activities.

If adequate funds are not available, we may be required to curtail significantly our development and commercialization activities. This would have a material adverse effect on our business, financial condition and/or results of operations.

Risks Related to Product Development and Commercialization

We have not commercialized any products or recognized any revenues from sales. All of our product candidates are still under development, and there can be no assurance of successful commercialization of any of our products.

We have not commercialized any products or recognized any revenues from product sales. In general, our research and development programs are at early stages. There can be no assurances that one or more of our future product candidates would not fail to meet safety standards in human testing, even if those product candidates were found to be effective in animal studies. To develop and commercialize biodefense treatment and prophylactic product candidates, we must provide the U.S. Food and Drug Administration (the "FDA") and foreign regulatory authorities with human clinical and non-clinical animal data that demonstrate adequate safety and effectiveness. To generate these data, we will have to subject our product candidates to significant additional research and development efforts, including extensive non-clinical studies and clinical testing. We cannot be sure that our approach to drug discovery will be effective or will result in the development of any drug. Even if our product candidates are successful when tested in animals, such success would not be a guarantee of the safety or effectiveness of such product candidates in humans.

Research and development efforts in the biodefense industry are time-consuming and subject to delays. Even if we initially receive positive early-stage pre-clinical or clinical results, such results may not be indicative of results that could be anticipated in the later stages of drug development. Delays in obtaining results in our non-clinical studies and clinical testing can occur for a variety of reasons, such as slower than anticipated enrollment by volunteers in the trials, adverse events related to the products, failure to comply with Good Clinical Practices, unforeseen safety issues, unsatisfactory results in trials, perceived defects in the design of clinical trials, changes in regulatory policy as well as for reasons detailed in "*Risk Factors—Necessary Reliance on the Animal Rule in Conducting Trials is Time-Consuming and Expensive*."

Any delay or adverse clinical event arising during any of our clinical trials could force us to conduct additional clinical trials in order to obtain approval from the FDA and other regulatory bodies. Our development costs will increase substantially if we experience material delays in any clinical trials or if we need to conduct more or larger trials than planned.

If delays are significant, or if any of our products do not prove to be safe, pure, and potent (including efficacy) or do not receive required regulatory approvals, we may have to abandon the product altogether and will be unable to recognize revenues from the sale of that product. In addition, our collaborative partners may not be able to conduct clinical testing or obtain necessary approvals from the FDA or other regulatory authorities for any product candidates jointly developed by us and our partners. If we fail to obtain required governmental approvals, we and our collaborative partners will experience delays in, or be precluded from, marketing products developed through them or, as applicable, their research.

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Necessary Reliance on the Animal Rule in Conducting Trials is Time-Consuming and Expensive.

As described in "*Business—U.S. Government Regulatory Pathway—General*", to obtain FDA approval for our biological warfare defense products under current FDA regulations, we are required to utilize animal model studies for efficacy and provide animal and human safety data under the "Animal Rule." For many of the biological and chemical threats, animal models are not yet available, and as such we are developing, or will have to develop, appropriate animal models, which is a time-consuming and expensive research effort. Further, we may not be able to sufficiently demonstrate the animal correlation to the satisfaction of the FDA, as these corollaries are difficult to establish and are often unclear. The FDA may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies, refuse to approve our products, or place restrictions on our ability to commercialize those products. Further, other countries do not, at this time, have established criteria for review and approval of these types of products outside their normal review process; i.e., there is no "Animal Rule" equivalent, and consequently there can be no assurance that we will be able to make a submission for marketing approval in foreign countries based on such animal data.

Additionally, few facilities in the U.S. and internationally have the capability to test animals with anthrax, plague, nerve agents, or other lethal biotoxins or chemical agents or otherwise assist us in qualifying the requisite animal models. We have to compete with other biodefense companies for access to this limited pool of highly specialized resources. We therefore may not be able to secure contracts to conduct the testing in a predictable timeframe or at all.

Even if we succeed in commercializing our product candidates, they may not become profitable and manufacturing problems or side effects discovered at later stages can further increase costs of commercialization.

We cannot assure you that any drugs resulting from our research and development efforts will become commercially available. Even if we succeed in developing and commercializing our product candidates, we may never generate sufficient or sustainable revenues to enable us to be profitable. Even if effective, a product that reaches market may be subject to additional clinical trials, changes to or re-approvals of our manufacturing facilities or a change in labeling if we or others identify side effects or manufacturing problems after a product is on the market. This could harm sales of the affected products and could increase the cost and expenses of commercializing and marketing them. It could also lead to the suspension or revocation of regulatory approval for the products.

We and our contract manufacturers ("CMO"s) will also be required to comply with the applicable FDA current Good Manufacturing Practice ("cGMP") regulations. These regulations include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Manufacturing facilities are subject to inspection by the FDA. These facilities must be approved to supply licensed products to the commercial marketplace. We and our contract manufacturers may not be able to comply with the applicable cGMP requirements and other FDA regulatory requirements. Should we or our contract manufacturers fail to comply, we could be subject to fines or other sanctions or could be precluded from marketing our products.

In particular, as part of the transfer of our existing contract with NIAID for the development of SparVax™ to BARDA on April 1, 2009, the terms of that contract were modified to provide for the transfer of the manufacturing process for the bulk drug substance for SparVax™ from Avecia Biologics in the U.K. to a U.S.-based contract manufacturing organization. We believe that if we are awarded a contract under RFP-BARDA-08-15 for the advanced development and procurement of 25 million doses of SparVax™, the U.S. government will require that such new CMO manufacture the bulk drug substance for SparVax™. This contract manufacturer has not manufactured that bulk drug substance before, and there can be no assurance we will be successful in our technology transfer efforts or that this new contract manufacturer will ever be able to manufacture sufficient amounts of cGMP quality bulk drug substance necessary for us to meet our obligations under any such advanced development and procurement contract.

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We may fail to fully realize the potential of Valortim® and of our co-development arrangement with Medarex, our partner in the development of Valortim®, which would have an adverse effect upon our business. We have completed one Phase I clinical trial for Valortim® with our development partner, Medarex, without any reported drug-related significant adverse events. However, before we may begin selling any doses of Valortim®, we will need to conduct more comprehensive safety trials in a significantly larger group of human subjects. We will be required to expend a significant amount to finalize manufacturing capability through a contract manufacturer to provide material to conduct the pivotal safety and efficacy trials. If our contract manufacturer is unable to produce sufficient quantities at a reasonable cost, or has any other obstacles to production, such as volatile manufacturing, then we will be unable to commence these required clinical trials and studies. Even after we expend sufficient funds to complete the development of Valortim® and if and when we enter into an agreement to supply Valortim® to the U.S. government, we will be required to share any and all profits from the sale of products with our partner in accordance with a pre-determined formula.

If we cannot maintain successful licensing arrangements and collaborations, enter into new licensing arrangements and collaborations, or effectively accomplish strategic acquisitions, our ability to develop and commercialize a diverse product portfolio could be limited and our ability to compete may be harmed.

A key component of our business strategy is the in-licensing of compounds and products developed by other pharmaceutical and biotechnology companies or academic research laboratories.

For example, we have an agreement with Medarex to develop Valortim®, a fully human monoclonal antibody product designed to protect against and treat inhalation anthrax. Under the agreement with Medarex, we will be entitled to a variable percentage of profits derived from sales of Valortim®, if any, depending, in part, on the amount of our investment. In addition, we have entered into licensing and research and development agreements with a number of other parties and collaborators. There can be no assurances that the research and development conducted pursuant to these agreements will result in revenue generating product candidates. If our suppliers, vendors, licensors, or other collaboration partners experience financial difficulties as a result of the current credit crisis and weakening of the global economy, or if they are acquired as part of the current wave of consolidations in the pharmaceutical industry (such as, for example, with the pending acquisition of Medarex by Bristol Myers Squibb), their priorities or our working relationship with them might change. As a result, they might shift resources away from the research, development and/or manufacturing efforts intended to benefit our products, which could lead to significant delays in our development programs and potential future sales. Finally, our current licensing, research and development, and supply agreements may expire and may not be renewable or could be terminated if we do not meet our obligations.

If we are not able to identify new licensing opportunities or enter into other licensing arrangements on acceptable terms, we may be unable to develop a diverse portfolio of products. In order for our future collaboration efforts to be successful, we must first identify partners whose capabilities complement and integrate well with ours. We face, and will continue to face, significant competition in seeking appropriate collaborators. Collaboration arrangements are complex and time consuming to negotiate, document and implement. We may not be successful in our efforts to establish and implement collaborations or other similar arrangements. The terms of any collaboration or other arrangements that we establish may not be favorable to us. Furthermore, technologies to which we gain access may prove ineffective or unsafe or our partners may prove difficult to work with or less skilled than we originally expected. In addition, any past collaborative successes are no indication of potential future success.

We may also pursue strategic acquisitions to further our development and commercialization efforts. To achieve the anticipated benefits of an acquisition, we must integrate the acquired company's business,

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technology and employees in an efficient and effective manner. The successful combination of companies in a rapidly changing biodefense industry may be more difficult to accomplish than in other industries. The combination of two companies requires, among other things, integration of the companies' respective technologies and research and development efforts. We cannot assure you that any integration will be accomplished smoothly or successfully. The difficulties of integration are increased by the need to coordinate geographically separated organizations and address possible differences in corporate cultures and management philosophies. The integration of certain operations will require the dedication of management resources that may temporarily distract attention from the day-to-day operations of the combined companies. The business of the combined companies may also be disrupted by employee retention uncertainty and lack of focus during integration. The inability of management to integrate successfully the operations of the two companies, in particular, to integrate and retain key scientific personnel, or the inability to integrate successfully two technology platforms, could have a material adverse effect on our business, results of operations and financial condition.

We may become subject to product liability claims, which could reduce demand for our product candidates or result in damages that exceed our insurance coverage.

We face an inherent risk of exposure to product liability suits in connection with our product candidates being tested in human clinical trials or sold commercially. We may become subject to a product liability suit if any product we develop causes injury, or if treated individuals subsequently become infected or suffer adverse effects from our products. Regardless of merit or eventual outcome, product liability claims may result in decreased demand for a product, injury to our reputation, withdrawal of clinical trial volunteers and loss of revenues.

In addition, if a product liability claim is brought against us, the cost of defending the claim could be significant and any adverse determination may result in liabilities in excess of our insurance coverage. Although our anthrax countermeasures are covered under the general immunity provisions of the U.S. Public Readiness and Emergency Preparedness Act (the "Public Readiness Act"), there can be no assurance that the U.S. Secretary of Health and Human Services will make other declarations in the future that cover any of our other product candidates or that the U.S. Congress will not act in the future to reduce coverage under the Public Readiness Act or to repeal it altogether. For further discussion of that act, see "Risk Factors - *Legislation limiting or restricting liability for medical products used to fight bioterrorism is new, and we cannot be certain that any such protection will apply to our products or if applied what the scope of any such coverage will be*" below. Additionally, we are considering applying for indemnification under the U.S. Support Anti-terrorism by Fostering Effective Technologies (SAFETY) Act of 2002 which preempts and modifies tort laws so as to limit the claims and damages potentially faced by companies who provide certain "qualified" anti-terrorism products. However, we cannot be certain that we will be able to obtain or maintain coverage under the SAFETY Act or adequate insurance coverage on acceptable terms, if at all.

Risks Related to Our Dependence on U.S. Government Contracts

Most of our immediately foreseeable future revenues are contingent upon grants and contracts from the U.S. government and we may not achieve sufficient revenues from these agreements to attain profitability.

For the foreseeable future, we believe our main customer will be national governments, primarily the U.S. government. Substantially all of our revenues to date have been derived from grants and U.S. government contracts. There can be no assurances that existing government contracts will be renewed or that we can enter into new contracts or receive new grants. The process of obtaining government contracts is lengthy and uncertain and we will have to compete with other companies for each contract. For example, while RFP-BARDA-08-15 for an rPA vaccine for the SNS initially indicated that the government would make an award by September 26, 2008 (later extended to December 31, 2008), as of the date this quarterly report on Form 10-Q is filed, the government has still not issued an award under that solicitation. There can be no

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assurances that we will be awarded any contracts to supply the U.S. or other governments with our products as such awards may be made, in whole or in part, to our competitors. If the U.S. government makes significant future contract awards for the supply to the U.S. emergency stockpile of a competing product, our business will be harmed and it is unlikely that we will ultimately be able to supply that particular treatment or product to foreign governments or other third parties. Further, changes in government budgets and agendas, or advances by our competitors, may result in a decreased and de-prioritized emphasis on procuring the biodefense products we are developing. For example,the U.S. government has selected a plague vaccine product candidate from a competitor for advanced development funding, and we do not anticipate that the U.S. government will provide additional funding in the future for or procure RypVax™. Furthermore, given the limited future prospects for RypVax™ at this time, we are in discussions with the U.S. government regarding potential early termination of our current contract. Under the terms of our 2006 contract with the U.S. Department of Defense regarding Protexia®, the Department of Defense may elect not to continue development assistance of this nerve agent countermeasure after initial funding of $41 million has been received (which decision we anticipate may occur by the end of the fourth quarter of 2009 or early 2010), or, if the Department of Defense does so elect to continue funding and we meet all development milestones, it may nevertheless choose not to procure any doses of Protexia®.

Due to the current economic downturn, the accompanying fall in tax revenues and the U.S. government's efforts to stabilize the economy, the U.S. government may be forced or choose to reduce or delay spending in the biodefense field, which could decrease the likelihood of future government contract awards or that the government would procure products from us.

U.S. government agencies have special contracting requirements that give them the ability to unilaterally control our contracts.

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

- suspend or prevent us for a set period of time from receiving new contracts or extending existing contracts based on violations or suspected violations of laws or regulations;
- terminate our contracts, including if funds become unavailable to the applicable governmental agency;
- reduce the scope and value of our contracts;
- audit and object to our contract-related costs and fees, including allocated indirect costs;
- control and potentially prohibit the export of our products; and
- change certain terms and conditions in our contracts.

The U.S. government will be able to terminate any of 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, settlement expenses, and profit on the work completed prior to termination. Termination-for-default provisions do not permit these recoveries and would make us liable for excess costs incurred by the U.S. government in procuring undelivered items from another source.

Due to the current economic downturn, the accompanying fall in tax revenues, and the U.S. government's efforts to stabilize the economy, the U.S. government may be forced or choose to reduce or delay spending in the biodefense field, which could decrease the likelihood of future government contract awards, the

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likelihood that the government will exercise its right to extend any of its existing contracts with us and/or the likelihood that the government would procure products from us.

The U.S. government's determination to award any contracts may be challenged by an interested party, such as another bidder, at the GAO or in federal court. If such a challenge is successful, a contract may be terminated.

The laws and regulations governing the procurement of goods and services by the U.S. government provide procedures by which other bidders and other interested parties may challenge the award of a government contract. If we are awarded a government contract, such challenges or protests could be filed even if there are not any valid legal grounds on which to base the protest. If any such protests are filed, the government agency may decide to suspend our performance under the contract while such protests are being considered by the GAO or the applicable federal court, thus potentially delaying delivery of goods and services and payment. In addition, we could be forced to expend considerable funds to defend any potential award. If a protest is successful, the government may be ordered to terminate our contract and reselect bids. The government could even be directed to award a potential contract to one of the other bidders. An example is the protest filed by a third-party bidder with the GAO challenging the decision of the DHHS to eliminate that bidder from further consideration under the solicitation for an rPA vaccine for the Strategic National Stockpile (RFP-BARDA-08-15), a result of which was a delay to the contract award date under this solicitation.

Our business is subject to audit by the U.S. government and a negative audit could adversely affect our business.

U.S. government agencies such as the Defense Contract Audit Agency, or the DCAA, routinely audit and investigate government contractors. These agencies review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards.

The DCAA also reviews the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation and management information systems. Any costs found to be improperly allocated to a specific contract will not be reimbursed, while such costs already reimbursed must be refunded. If an audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions, including:

- termination of contracts;

- forfeiture of profits;
- suspension of payments;
- fines; and
- suspension or prohibition from conducting business with the U.S. government.

In addition, we could suffer serious reputational harm if allegations of impropriety were made against us.

Laws and regulations affecting government contracts make it more costly and difficult for us to successfully conduct our business.

We must comply with numerous laws and regulations relating to the formation, administration and performance of government contracts, which can make it more difficult for us to retain our rights under these contracts. These laws and regulations affect how we conduct business with government agencies. Among the most significant government contracting regulations that affect our business are:

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- the Federal Acquisition Regulations, or FAR, and agency-specific regulations supplemental to the Federal Acquisition Regulations, which comprehensively regulate the procurement, formation, administration and performance of government contracts;
- the business ethics and public integrity obligations, which govern conflicts of interest and the hiring of former government employees, restrict the granting of gratuities and funding of lobbying activities and incorporate other requirements such as the Anti-Kickback Act and Foreign Corrupt Practices Act;
- export and import control laws and regulations; and
- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data.

Foreign governments typically also have laws and regulations governing contracts with their respective agencies. These foreign laws and regulations affect how we and our customers conduct business and, in some instances, impose added costs on our business. Any changes in applicable laws and regulations could restrict our ability to maintain our existing contracts and obtain new contracts, which could limit our ability to conduct our business and materially adversely affect our revenues and results of operations.

Risks Related to Dependence on or Competition From Third Parties

Because we depend on clinical research centers and other contractors for clinical and non-clinical testing, including testing under the Animal Rule, and for certain research and development activities, the results of our clinical trial, non-clinical animal efficacy studies, and research and development activities are largely beyond our control.

The nature of clinical trials and our business strategy of outsourcing substantially all of our research and development and manufacturing work require that we rely on clinical research centers and other contractors to assist us with research and development, clinical and non-clinical testing (including animal efficacy studies under the Animal Rule), patient enrollment and other activities. As a result, our success depends largely on the success of these third parties in performing their responsibilities. Although we prequalify our contractors and believe that they are fully capable of performing their contractual obligations, we cannot directly control the adequacy and timeliness of the resources and expertise that they apply to these activities. Furthermore, we have to compete with other biodefense companies for access to this limited pool of highly specialized resources. If our contractors do not perform their obligations in an adequate and timely manner or we are unable to enter into contracts with them because of prior commitments to our competitors, the pace of clinical or non-clinical development, regulatory approval and commercialization of our product candidates could be significantly delayed and our prospects could be adversely affected.

We depend on third parties to manufacture, package and distribute compounds for our product candidates and key components for our product candidates. The failure of these third parties to perform successfully could harm our business.

We do not have any of our own manufacturing facilities. We have therefore utilized, and intend to continue utilizing, third parties to manufacture, package and distribute our product candidates and key components of our product candidates. Any material disruption in manufacturing could cause a delay in our development programs and potential future sales. Furthermore, certain compounds, media, or other raw materials used to manufacture our drug candidates are available from any one or a limited number of sources. Any delays or difficulties in obtaining key components for our product candidates or in manufacturing, packaging or distributing our product candidates could delay clinical trials and further development of these potential products. Additionally, the third parties we rely on for manufacturing and packaging are subject to regulatory review, and any regulatory compliance problems with these third parties could significantly delay or disrupt our commercialization activities.

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We were notified by the contract manufacturer who supplies the pegylation reagent for our Protexia® product candidate that it intends to cease its contract manufacturing operations to focus exclusively on developing its own proprietary product candidates. We are now in the process of searching for an alternative supplier. As part of this process, we will need to negotiate and execute a license to certain intellectual property from our current supplier related to the pegylation process and to engage in a technology transfer process to a new supplier. If we are not successful in these endeavors, our Protexia® development program will be adversely affected.

Finally, third-party manufacturers, suppliers and distributors, like most companies, have been adversely affected by the current credit crisis and weakening of the global economy and as such may be more susceptible to being acquired as part of the current wave of consolidations in the pharmaceutical industry. It has, for example, become increasingly challenging for companies to secure debt capital to fund their operations as financial institutions have significantly curtailed their lending activities. If our third-party suppliers continue to experience financial difficulties as a result of weakening demand for their products or for other reasons and are unable to obtain the capital necessary to continue their present level of operations or are acquired by others, they may have to reduce their activities and/or their priorities or our working relationship with them might change. A material deterioration in their ability or willingness to meet their obligations to us could cause a delay in our development programs and potential future sales and jeopardize our ability to meet our obligations under our contracts with the government or other third parties.

We face, and likely will continue to face, competition from companies with greater financial, personnel and research and development resources. Our commercial opportunities will be reduced or eliminated if our competitors are more successful in the development and marketing of their products.

The biopharmaceutical industry is characterized by rapid and significant technological change. Our success will depend on our ability to develop and apply our technologies in the design and development of our product candidates and to establish and maintain a market for our product candidates. There are many organizations, both public and private, including major pharmaceutical and chemical companies, specialized biotechnology firms, universities and other research institutions engaged in developing pharmaceutical and biotechnology products. Many of these organizations have substantially greater financial, technical, intellectual property, research and development, and human resources than we have. Competitors may develop products or other technologies that are more effective than any that we are developing or may obtain FDA approval for products more rapidly. As noted above in "- *Most of our immediately foreseeable future revenues are contingent upon grants and contracts from the U.S. government and we may not achieve sufficient revenues from these agreements to attain profitability,"* the U.S. government has selected a plague vaccine product candidate from a competitor for advanced development funding. We are in discussions with the U.S. government regarding potential early termination of our contract for RypVax™, which is currently scheduled to end during the first half of 2011.

If we commence commercial sales of products, we still must compete in the manufacturing and marketing of such products, areas in which we have limited experience. Many of these organizations also have manufacturing facilities and established marketing capabilities that would enable such companies to market competing products through existing channels of distribution. Our commercial opportunities will be reduced or eliminated if our competitors develop and market products that:

- are more effective;
- have fewer or less severe adverse side effects;
- are more adaptable to various modes of dosing;
- obtain orphan drug exclusivity that blocks the approval of our application for seven years;

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- are easier to administer; or
- are less expensive than the products or product candidates that we are, or in the future will be, developing.

While the regulatory climate for generic versions of biological products approved under a Biologics License Application (or a BLA) in the United States remains uncertain, and currently there is no formalized mechanism by which the FDA can approve a generic version of an approved biological product, Federal legislation has been introduced to establish a legal pathway for the approval of generic versions of approved biological products. If enacted, the legislation will impact the revenue projections for our products.

Even if we are successful in developing effective products, and obtain FDA and other regulatory approvals necessary for commercializing them, our products may not compete effectively with other successful products. Our competitors may succeed in developing and marketing products either that are more effective than those that we may develop, alone or with our collaborators, making our products obsolete, or that are marketed before any products that we develop are marketed.

Risks Related to Political and Social Factors

Political or social factors may delay or impair our ability to market our products and our business may be materially adversely affected.

Products developed to treat diseases caused by, or to combat the threat of, bioterrorism will be subject to changing political and social environments. The political and social responses to bioterrorism have been unpredictable. Political or social pressures may delay or cause resistance to bringing our products to market or limit pricing of our products, which would harm our business.

Risks Related to Intellectual Property

Our commercial success will be affected significantly by our ability (i) to obtain and maintain protection for our proprietary technology and that of our licensors and collaborators and (ii) not to infringe on patents and proprietary rights of third parties.

The patent position of biotechnology firms generally is highly uncertain and involves complex legal and factual questions, and, therefore, validity and enforceability cannot be predicted with certainty. To date, no consistent policy has emerged regarding the breadth of claims allowed in biotechnology patents. We currently hold two U.S. patents, have six pending U.S. patent applications, and have a limited number of international patents pending. In addition, we have rights under numerous other patents and patent applications pursuant to exclusive and non-exclusive license arrangements with licensors and collaborators. However, there can be no assurance that patent applications owned or licensed by us will result in patents being issued or that the patents, whether existing or issued in the future, will afford protection against competitors with similar technology. Any conflicts resulting from third-party patent applications and patents could significantly reduce the coverage of the patents owned, optioned by or licensed to us or our collaborators and limit our ability or that of our collaborators to obtain meaningful patent protection.

Further, our commercial success will depend significantly on our ability to operate without infringing the patents and proprietary rights of third parties. We are aware of one U.S. patent covering recombinant production of an antibody and a license may be required under such patent with respect to Valortim®, which is a monoclonal antibody and uses recombinant reproduction of antibodies. Although the patent owner has granted licenses under such patent, we cannot provide any assurances that we will be able to obtain such a license or that the terms thereof will be reasonable. If we do not obtain such a license and if a legal action based on such patent was to be brought against us or our distributors, licensees or collaborators,

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we cannot provide any assurances that we or our distributors, licensees or collaborators would prevail or that we have sufficient funds or resources to defend such claims.

We are also aware of pending applications directed to pegylated butyrylcholinesterase. Protexia® incorporates butyrylcholinesterase. If patents are issued to third parties that cover Protexia® or other products, we may be required to obtain a license under such patents or obtain alternative technology. We cannot provide any assurances that such licenses will be available or that the terms thereof will be reasonable or that we will be able to develop alternative technologies. If we do not obtain such a license and if a legal action based on such patent was to be brought against us or our distributors, licensees or collaborators, we cannot provide any assurances that we or our distributors, licensees or collaborators would prevail or that we have sufficient funds or resources to defend such claims.

The costs associated with establishing the validity of patents, of defending against patent infringement claims of others and of asserting infringement claims against others is expensive and time consuming, even if the ultimate outcome is favorable. An outcome of any patent prosecution or litigation that is unfavorable to us or one of our licensees or collaborators may have a material adverse effect on us. The expense of a protracted infringement suit, even if ultimately favorable, would also have a material adverse effect on us.

We furthermore rely upon trade secrets protection for our confidential and proprietary information. We have taken measures to protect our proprietary information; however, these measures may not provide adequate protection to us. We have sought to protect our proprietary information by entering into confidentiality agreements with employees, collaborators and consultants. Nevertheless, employees, collaborators or consultants may still disclose our proprietary information, and we may not be able to meaningfully protect our trade secrets. In addition, others may independently develop substantially equivalent proprietary information or techniques or otherwise gain access to our trade secrets.

Risks Related to Regulatory Approvals and Legislation

Our use of hazardous materials and chemicals requires us to comply with regulatory requirements which may result in significant costs and expose us to potential liabilities.

Our research and development involves the controlled use of hazardous materials and chemicals. We are subject to federal, state, local and foreign laws governing the use, manufacture, storage, handling and disposal of such materials. We will not be able to eliminate the risk of accidental contamination or injury from these materials. In the event of such an accident, we could be forced to pay significant damages or fines, and these damages could exceed our resources and any applicable insurance coverage. In addition, we may be required to incur significant costs to comply with regulatory requirements in the future.

Legislation limiting or restricting liability for medical products used to fight bioterrorism is new, and we cannot be certain that any such protection will apply to our products or if applied what the scope of any such coverage will be.

The U.S. Public Readiness Act was signed into law in December 2005 and creates general immunity for manufacturers of countermeasures, including security countermeasures (as defined in Section 319F-2(c)(1)(B) of that act), when the U.S. Secretary of Health and Human Services issues a declaration for their manufacture, administration or use. The declaration is meant to provide general immunity from all claims under state or federal law for loss arising out of the administration or use of a covered countermeasure. Manufacturers are excluded from this protection in cases of willful misconduct. Although our anthrax countermeasures have been covered under the general immunity provisions of the Public Readiness Act since October 1, 2008, there can be no assurance that the Secretary of Health and Human Services will make other declarations in the future that would cover any of our other product candidates or that the U.S. Congress will not act in the future to reduce coverage under the Public Readiness Act or to repeal it altogether.

Upon a declaration by the Secretary of Health and Human Services, a compensation fund would be created to provide “timely, uniform, and adequate compensation to eligible individuals for covered injuries directly

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caused by the administration or use of a covered countermeasure.” The “covered injuries” to which the program applies are defined as serious physical injuries or death. Individuals are permitted to bring a willful misconduct action against a manufacturer only after they have exhausted their remedies under the compensation program. A willful misconduct action could be brought against us if an individual(s) has exhausted their remedies under the compensation program which thereby could expose us to liability. Furthermore, there is no assurance that the Secretary of Health and Human Services will issue under this act a declaration to establish a compensation fund. We may also become subject to standard product liability suits and other third party claims if products we develop which fall outside of the Public Readiness Act cause injury or if treated individuals subsequently become infected or otherwise suffer adverse effects from such products.

We are required to comply with certain export control laws, which may limit our ability to sell our products to non-U.S. persons and may subject us to regulatory requirements that may delay or limit our ability to develop and commercialize our products.

Our product candidates are subject to the Export Administration Regulations (“EAR”) administered by the U.S. Department of Commerce and are, in certain instances (such as regarding aspects of our Protexia® product candidate) subject to the International Traffic in Arms Regulations (“ITAR”) administered by

the U.S. Department of State. EAR restricts the export of dual-use products and technical data to certain countries, while ITAR restricts the export of defense products, technical data and defense services. The U.S. government agencies responsible for administering EAR and ITAR have significant discretion in the interpretation and enforcement of these regulations. Failure to comply with these regulations can result in criminal and civil penalties and may harm our ability to enter into contracts with the U.S. government. It is also possible that these regulations could adversely affect our ability to sell our products to non-U.S. customers.

Risks Related to Personnel

We depend on our key technical and management personnel, and the loss of these personnel could impair the development of our products.

We rely, and will continue to rely, on our key management and scientific staff, all of whom are employed at-will. The loss of key personnel or the failure to recruit necessary additional qualified personnel could have a material adverse effect on our business and results of operations. There is intense competition from other companies, research and academic institutions and other organizations for qualified personnel. We may not be able to continue to attract and retain the qualified personnel necessary for the development of our business. If we do not succeed in retaining and recruiting necessary personnel or developing this expertise, our business could suffer significantly.

In particular, as noted above in "*Even if we succeed in commercializing our product candidates, they may not become profitable and manufacturing problems or side effects discovered at later stages can further increase costs of commercialization*," we are transferring the manufacturing process for the bulk rPA drug substance from Avecia in the United Kingdom to a U.S.-based contract manufacturer. In connection with that transfer, we also anticipate moving our U.K.-based operations to the United States by June 30, 2010. There can be no assurance that we will be able to recruit and hire the necessary staff in the U.S. to complete the transfer of activities in a timely and cost effective manner.

Biotechnology companies often become subject to claims that they or their employees wrongfully used or disclosed alleged trade secrets of the employees' former employers. Such litigation could result in substantial costs and be a distraction to our management.

As is commonplace in the biotechnology industry, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including at competitors or potential competitors. Although no claims against us are currently pending, we may be subject to claims that we or our employees have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their

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former employers. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and distract management.

Risks Related to our Common Stock

Shares that we may issue in the future in connection with certain capital-raising transactions and shares available for future issuance upon conversion and exercise of convertible notes, warrants and options could dilute our shareholders and depress the market price of our common stock.

We will likely seek to raise additional capital and may do so at any time through various financing alternatives, including potentially selling shares of common or preferred stock, notes and/or warrants convertible into, or exercisable for, shares of common or preferred stock. Even following the registered offering of securities completed on March 27, 2009, we could again rely upon the shelf registration statement on Form S-3, which was declared effective on February 12, 2009, in connection with a sale from time to time of common stock, preferred stock or warrants or any combination of those securities, either individually or in units, in one or more offerings for up to $50,000,000 (inclusive of the gross proceeds from our recent public offering of $5.5 million and the $2.1 million we would receive if all of the warrants issued in that offering were exercised). Raising capital in this manner or any other manner may depress the market price of our stock, and any such financing(s) will dilute our existing shareholders.

In addition, as of June 30, 2009, we had outstanding options to purchase approximately 4.4 million shares of common stock. Additional shares are reserved for issuance under our 2007 Long-Term Incentive Compensation Plan. Our stock options are generally exercisable for ten years, with a significant portion exercisable either immediately or beginning one year after the date of the grant. Furthermore, the senior unsecured convertible notes in the aggregate principal amount of $19.3 million issued in July 2009 are convertible at $2.54 per share into approximately 7.6 million shares of our common stock, and the accompanying warrants are exercisable for up to 2.6 million shares of common stock at $2.50 per share. Finally, as of August 12, 2009, the Company had issued and outstanding additional warrants to purchase up to an additional 3.6 million shares of common stock. The issuance or even the expected issuance of a large number of shares of our common stock upon conversion or exercise of the securities described above could depress the market price of our stock and the issuance of such shares will dilute the stock ownership of our existing shareholders.

If we are unable to continue to satisfy the listing requirements of NYSE Amex, our securities could be delisted from trading which could limit investors' ability to make transactions in our securities and subject us to additional trading restrictions.

Our common stock and certain warrants are listed on the NYSE Amex (formerly the NYSE Alternext US or American Stock Exchange), a national securities exchange, which imposes continued listing requirements with respect to listed shares. If we fail to satisfy one or more of the requirements, such as the policy that issuers that have had losses in their five most recent fiscal years have stockholders' equity of at least $6,000,000, that issuers have more than 300 public shareholders, or that the aggregate market value of shares publicly held be more than $1,000,000, the NYSE Amex may decide to delist our common stock. If the NYSE Amex delists our securities from trading on its exchange and we are not able to list our securities on another exchange or to have them quoted on Nasdaq, our securities could be quoted on the OTC Bulletin Board or on the "pink sheets". As a result, we could face significant adverse consequences including:

- a limited availability of market quotations for our securities;
- a determination that our common stock is a "penny stock" which will require brokers trading in our common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our securities;
- a limited amount of news and analyst coverage for us; and

· a decreased ability to issue additional securities or obtain additional financing in the future.

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We can make no assurances that we will ever pay dividends.

We have not paid any dividends on our common stock in 2007, 2008, and the first half of 2009 and do not intend to declare any dividends in the foreseeable future. While subject to periodic review, our current policy is to retain all earnings, if any, primarily to finance our future growth. We make no assurances that we will ever pay dividends, cash or otherwise. Whether we pay any dividends in the future will depend on our financial condition, results of operations, and other factors that we will consider.

Item 6. Exhibits.

No.	Description
4.9	Form of 10% Unsecured Senior Convertible Note*
4.10	Form of Warrant to Purchase Common Stock*
10.45	Form of Indemnification Agreement**
10.50	Form of Note and Warrant Purchase Agreement, dated as of July 24, 2009, by and among PharmAthene, Inc. and the investors signatories thereto, as amended by Amendment No. 1 to Note and Warrant Purchase Agreement, dated as of July 26, 2009 and Amendment No. 2 to Note and Warrant Purchase Agreement, dated as of July 28, 2009*
10.51	Form of Registration Rights Agreement, dated as of July 26, 2009 by and among PharmAthene, Inc. and the investors signatories thereto*
10.52	Variation and Settlement Agreement, dated as of June 17, 2009, by and among PharmAthene, Inc., PharmAthene UK Limited and Avecia Biologics Limited and affiliates***
31.1	Certification of Principal Executive Officer Pursuant to SEC Rule 13a-14(a)/15d-14(a).
31.2	Certification of Principal Financial Officer Pursuant to SEC Rule 13a-14(a)/15d-14(a).
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350.
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350.

* Incorporated by reference to the corresponding exhibit to PharmAthene, Inc.'s Amendment No. 1 to Current Report on Form 8-K filed on August 3, 2009
** Incorporated by reference to the corresponding exhibit to PharmAthene's Current Report on Form 8-K filed on January 27, 2009
*** Portions of this exhibit have been omitted pursuant to a request for confidential treatment.

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SIGNATURES

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

PHARMATHENE, INC.

Dated: August 13, 2009

By: /s/ David P. Wright
David P. Wright
Chief Executive Officer

Dated: August 13, 2009

By: /s/ Christopher C. Camut
Christopher C. Camut
Chief Financial Officer

Exhibit 10.52

PharmAthene, Inc.

Confidential Materials Omitted and Filed Separately with the

Securities and Exchange Commission

Confidential Portions denoted by [***]

Execution Version

THIS VARIATION AND SETTLEMENT AGREEMENT (this "**V&S Agreement**") is made as of the date of last signature below (the "**Effective Date**") by and among:

(1) **PHARMATHENE, INC.** of One Park Place, Annapolis, Maryland 21401 United States ("**Pthn US**"); and

(2) **AVECIA INVESTMENTS LIMITED** a company incorporated in England and Wales (company number 03768296) whose registered office is at PO Box 42, Hexagon Tower, Blackley Manchester, M9 8ZS, United Kingdom ("**AIL**"); and

(3) **PHARMATHENE UK LIMITED** a company incorporated in England and Wales (company number 06534363) whose registered office is at C/O Hogan & Hartson, Juxon House, 100 St Paul's Churchyard, London EC4M 8BU, United Kingdom ("**Pthn UK**" and sometimes along with Pthn US collectively referred to as "**Pthn**"); and

(4) **AVECIA BIOLOGICS LIMITED** a company incorporated in England and Wales (company number 05803359) whose registered office is at Hexagon Tower, PO Box 42, Blackley, Manchester M9 8ZS, United Kingdom ("**ABL**" and sometimes along with AIL collectively referred to as "**Avecia**"); and

(5) **AVECIA BIOLOGICS INC.** of 155 Fortune Boulevard, Milford MA01757, United States ("**ABI**"); and

(6) **AVECIA LIMITED** a company incorporated in England and Wales (company number 03730853) whose registered office is at PO Box 42, Hexagon Tower, Blackley, Manchester M98ZS, United Kingdom ("**AL**").

WHEREAS:

(A) Reference is made to that certain (i) Sale and Purchase Agreement dated 20 March 2008, as amended by the Amendment Agreement dated April 2, 2008 (as amended, the "**Purchase Agreement**") among AIL, the Business Vendors (as defined therein), Avecia Limited, the Local Purchasers (as defined therein) and Pthn US and (ii) letter of credit issued by Silicon Valley Bank (being L/C Number SVBSF005177: Expiry Date 16 October 2009) pursuant to Schedule 7 of the Purchase Agreement (the "**SVB Letter of Credit**").

(B) The parties hereto now desire to record the amicable resolution between them of all matters outstanding between them as of the Effective Date with respect to the Deferred Consideration (as defined in the Purchase Agreement).

(C) Reference is made to Contract No. N01-30052 between ABL and the National Institute of Allergy and Infectious Diseases ("NIAID"), part of the US National Institute of Health ("NIH"), for "Production and Testing of Anthrax Recombinant Protective Antigen" ("**Contract No. N01-30052**"), which was novated to Pthn UK in December 2008.

(D) Reference is also made to that certain Master Services Agreement dated 2 April 2008 among Pthn UK and ABL (the "**Master Services Agreement**") and Project Plans #1 and #2 attached thereto (the "**Project Plans**").

(E) The parties hereto now desire to record the amicable resolution between them of matters outstanding as of the Effective Date with respect to Contract N01-30052, including but not limited to the Project Plans, including the discharge and settlement of certain obligations and liabilities under the Master Services Agreement in respect of the Project Plans arising between them prior to the Effective Date.

NOW, IN CONSIDERATION OF THE OBLIGATIONS AND MUTUAL AGREEMENTS SET OUT IN THIS V&S AGREEMENT, THE PARTIES HERETO HEREBY AGREE AS FOLLOWS:

1. **Payment of Deferred Consideration and Delivery of the SVB Letter of Credit**

1.1 Pthn US shall pay to AIL the Deferred Consideration of US$7,000,000 to be received as cleared funds in the following bank account on or before 30 June 2009:

[* * *]

1.2 Upon receipt of the Deferred Consideration as cleared funds in AIL's bank account:

(i) AIL shall immediately deliver the SVB Letter of Credit to Pthn US;

(ii) the SVB Letter of Credit shall be terminated in all respects; and

(iii) the parties hereto shall promptly take all actions and to execute all documents necessary to reflect said termination.

AIL hereby agrees that it shall not take any action to avail itself of the protections of the SVB Letter of Credit including making any draw under the SVB Letter of Credit provided Pthn US pays to AIL the Deferred Consideration on or before 30 June 2009, in accordance with Clause 1.1 above.

1.3 The terms of the Purchase Agreement shall be deemed amended to give effect to the provisions of Clauses 1.1 and 1.2 above.

2. Contract No. N01-30052, Master Services Agreement and the Project Plans

2.1 Subject to adjustment under Clause 3.5 below, Pthn US on behalf of Pthn UK shall pay to ABL the aggregate sum of GBP£961,885 plus Value Added Tax payable under Invoice 90000731 (the "**Services Payment**") in a single payment in full satisfaction for work performed or required to be performed under the Project Plans for which ABL has not been paid by Pthn UK or any other party, subject to and following completion of all of the following by ABL:

[* * *]

2.2 Subject to Clause 2.3 below, as a result of the termination of the Project Plans on the Date of Termination (defined below). Pthn US on behalf of Pthn UK shall pay to ABL the sum of GBP£1.588,1 15 plus Value Added Tax (the "**Project Plans Termination Payment**") on the earlier of:

(a) thirty (30) days of satisfaction of the Milestone 2A Procurement Condition (as defined in the Purchase Agreement), provided that, for the avoidance of doubt, payment of the Milestone 2A Procurement Consideration (as defined in the Purchase Agreement) by Pthn US under the Purchase Agreement shall in no way be affected by payment under this V&S Agreement; or

(b) 5 January 2010.

2.3 In connection with, and as a condition to, the payment of the Project Plans Termination Payment in accordance with Clause 2.2 above, ABL shall provide to Pthn UK information in Microsoft Excel format in a form substantially similar to US Government Standard Form 1437 titled "Settlement Proposal for Cost-Reimbursement Type Contracts" with supporting documentation as previously provided to Pthn UK, which Pthn UK may use to prepare Standard Form 1437 for submission to NlH in support its efforts of obtaining reimbursement from the United States Government for reimbursement for such payment to ABL.

2.4 ABL and Pthn understand that the United States Government may require Pthn UK to submit a single termination claim that includes costs incurred under the Project Plans prior to termination, disposition of Acquired Property (as defined below) and cancellation costs as part of a one-time submission. In such case ABL shall promptly provide to Pthn UK all documentation reasonably required to support Pthn UK's claim that the incurred costs were reasonable allowable, and allocable to the Project Plans and Contract N01-30052. If the United States Government should request Pthn UK to provide additional information on other standard government forms. ABL agrees to provide reasonable assistance to Pthn UK for Pthn UK to comply with such requests within a reasonable time frame and in any event within the designated United States Government time line for performance subject always to receipt of timely notice by ABL of such requests from Pthn UK.

2.5 Following any delivery request from Pthn, ABL hereby agrees to deliver to Pthn UK on a commercially reasonable timely basis all the government furnished equipment ("**GFE**") and raw materials, works in progress, supplies, equipment, data, materials, information, and other items acquired, fabricated, or otherwise obtained or provided by Avecia for performing under Contract No: N01-30052 and the Project Plans ("**Acquired Property**") from the beginning of the contract between ABL and NIAID, part of the NIH, to the date of the novation between ABL and Pthn UK and then from the date of the aforementioned novation to the date on which Pthn terminated the Project Plans, i.e. [* * *], ("**Date of Termination**") Attachment 2.5 is to the best of ABL's knowledge and belief a true, accurate and complete list of all such GFE and Acquired Property unconsumed or unused as at the Date of Termination but in the event that there are any items of such GFE or Acquired Property which are not included on the said list, such items shall also be delivered to Pthn UK in accordance with this clause 2.5. Delivery of all the foregoing (including the items set forth in Clause 2.1 above) shall be EXW (Billingham Site) (Incoterms 2000) ABL hereby acknowledges and confirms to Pthn UK its obligations under Clause 11.1 of

the Master Services Agreement to transfer PharmAthene Technology (as defined therein) and to provide certain technical assistance to Pthn UK and its designees and the parties hereto agree that, once executed by ABL and Pthn UK, the provisions of Project Plan #6 shall record such obligations of ABL in respect of such transfer and provision of assistance in detail. ABL shall also provide reasonable assistance to Pthn UK, including such information as may be reasonably requested by Pthn UK, to facilitate Pthn UK to bill the United States Government for amounts recoverable relating to cancellation of the rPA program.

2.6 Avecia shall promptly provide to Pthn UK all documentation reasonably required to enable Pthn UK to take such actions as Pthn UK, acting reasonably, considers necessary to demonstrate to the United States Government and support that the Services Payment was reasonable, allowable, and allocable to the Project Plans and Contract N01-30052. Such documentation shall be in support of executed work completed by ABL and shall not include any costs associated with cancellation. At Pthn's reasonable request, ABL shall promptly provide Pthn UK or its designee such documentation as may be reasonably necessary to enable Pthn UK to complete the necessary close-out documentation required for a United States Government contract like Contract No. N01-30052, including but not limited to "Final Inventory Statement and Certification," "Assignment of Credits and Refunds for Cost Reimbursement Subcontracts," and "Subcontractor's Certificate of Completion and Release of Claims".

2.7 ABL shall provide a list of GFE and Acquired Property in a Microsoft Excel format in form substantially similar to US Government Standard Form 1428 titled "Inventory Disposal Schedule". If the United States Government should request Pthn UK to provide additional information on other

standard government forms. ABL agrees to provide reasonable assistance to Pthn UK for Pthn UK to comply with such requests with in a reasonable time frame with due consideration for the designated United States Government time line for performance, but subject always to receipt of timely notice to ABL from Pthn UK of such requests.

2.8 Avecia shall provide reasonable assistance to Pthn to enable Pthn to make all representations and certifications required by the close-out documentation and Standard Forms referenced above in a timely manner.

3. **Basis of settlement and waiver**

The parties hereto agree as follows:

3.1 the terms of this V&S Agreement are in full and final settlement of the obigations and liabilities of the parties hereto that have arisen, otherwise accrued or are contingent between any of them solely in respect of:

(i) payment of the Deferred Consideration, provided that, notwithstanding any provision of this V&S Agreement, AIL shall be entitled to take any action to avail itself of the protections of the SVB Letter of Credit including making any draw under the SVB Letter of Credit if Pthn US has failed to pay to AIL the Deferred Consideration by 30 June 2009, in accordance with Clause 1.1 above; and

(ii) (a) the obligation on the part of Pthn US and Pthn UK to make payments to Avecia under the Project Plans and the Master Services Agreement (and the cancellation of work thereunder), and (b) the obligations of Avecia to provide proper documentation and justification for the charges relating to its work under Contract No. N01-30052, Master Services Agreement and the Project Plans (collectively, any and all of the obligations and liabilities referred to in this Clause 3.1(ii) are referred to in this V&S Agreement as the "**rPA Wind Down Obligations and Liabilities**");

3.2 as of the Effective Date each of the parties hereto hereby releases each of the other parties hereto from its respective rPA Wind Down Obligations and Liabilities, other than as specifically set out in the V&S Agreement;

3.3 other than with respect to fraud or to enforce its rights under this V&S Agreement, as of the Effective Date, each of parties hereto covenant with each other party hereto (and their respective affiliates, principals, directors, officers, stockholders, members, subsidiaries, parents, divisions, representatives, agents, assigns, employees, servants and successors) not to take any action against such party (including but not limited to bringing any proceedings) in respect of the rPA Wind Down Obligations and Liabilities;

3.4 this V&S Agreement is entered into between the parties hereto in connection with the compromise of disputed matters and in the light of other considerations. It is not, and shall not be represented or construed by the parties hereto as, an admission of liability or wrongdoing on the part of a party to this V&S Agreement or any other person or entity;

3.5 Avecia agree, consent to, and shall co-operate in the audit of their books and records by the United States Government, if requested, to support Avecia claims for payment under the Project Plans and the termination thereof. Said audit will be consistent with the terms of Contract No. N01-30052. If said audit should discover that costs within, or

relating to all or any part of the Services Payment payable are not allowable, allocable or reasonable by reason of being costs previously paid (i.e., double payments) costs for work, materials, consumable items, equipment or actions for other customers incorrectly charged to Pthn, or costs wrongly included by mistake or wilful act or omission. Pthn may deduct such unallowable, unallocable or unreasonable costs from the Services Payment (or if payment has already been made Avecia shall promptly reimburse such amount to Pthn). Notwithstanding the foregoing, no reduction/repayment shall be due with respect to costs incurred by Avecia for work, materials, consumable items, equipment or actions obtained, undertaken or allocated to the work under the Project Plans with Pthn's approval or that Pthn has previously agreed to pay;

3.6 Avecia warrant and represent to Pthn that, to the best of Avecia's knowledge and belief, the costs incurred under the Project Plans prior to the Date of Termination were incurred in performance of the Project Plans in which Avecia have not been reimbursed and that such costs are reasonable, allowable and allocable per the requirements of Contract No. N01-30052;

3.7 The parties hereto consent to any amendments or variations to the terms of the Purchase Agreement that result from the terms of this V&S Agreement (the "**Variation Consent**"). ABl and AL shall have no liability or obligation under this V&S Agreement in respect of any matter other than the Variation Consent or as set out in Clause 4 below.

4. Law and Other Terms

4.1 This V&S Agreement is governed by and shall be construed and interpreted in accordance with the laws of England. The provisions of Clause 20.2 of the Purchase Agreement shall apply to this V&S Agreement as though they were set out in full in this V&S Agreement except that references to the Purchase Agreement are to be construed as references to this V&S Agreement.

4.2 To the extent that the Purchase Agreement or the Master Services Agreement is explicitly amended by this V&S Agreement, the terms of this V&S Agreement will prevail where the terms of the Purchase Agreement or the Master Services Agreement is contrary to or conflict with provisions of this V&S Agreement. Each of the Purchase Agreement and the Master Services Agreement, as amended by this V&S Agreement remains in full force and effect.

4.3 Headings in this V&S Agreement have been inserted for convenience of reference only and are not intended to limit or expand the meaning of the language contained in any particular Clause, paragraph or Clause.

4.4 The rights and obligations of the parties hereto under this V&S Agreement or any interest in this V&S Agreement shall not be assigned, transferred, hypothecated, pledged or otherwise disposed of without the prior written consent of the non-assigning parties hereto; provided, however, that a party hereto may, without prior consent of the other parties hereto, assign this V&S Agreement in its entirety in connection with the merger or sale of all or substantially all of the assets of such party hereto if such assignee agrees in writing to assume and be bound by the obligations of this V&S Agreement and the assignor continues to be bound by the obligations hereunder notwithstanding such assignment.

4.5 Each party hereto covenants that at any time, and from time to time it will execute such additional instruments and take such actions as may be reasonably requested by the other parties hereto to confirm or otherwise carry out the intent and purposes of this V&S Agreement. Should any provision of this V&S Agreement be declared illegal or unenforceable by any court of competent jurisdiction, such provision shall immediately become null and void, leaving the remainder of this V&S Agreement in full force and effect.

4.6 This V&S Agreement may not be modified or amended other than by an agreement in writing signed by all the parties hereto.

4.7 The nature of any claims against the parties hereto in connection with the subject matter of this V&S Agreement, the facts underlying such claims, the fact of any settlement of such claims, the fact of the negotiations leading to such settlement and the substance of those negotiations, the status of the matters referred to in this V&S Agreement, the terms of this V&S Agreement, and the amount of settlement, shall remain confidential and the parties hereto to this V&S Agreement shall not divulge this information to any person, other than legal counsel, accountants, the United States Government, including but not limited to the United States Department of Health and Human Services and other United States Government agencies acting on its behalf, United States Securities and Exchange Commission and the United States internal Revenue Service (as well as the UK equivalents of each of the foregoing), if necessary, at any time or for any purpose, except as may be required (i) by valid order or request by a securities regulatory organization any state or federal court, or administrative agency, (ii) by law, or (iii) in order to enforce the terms of this V&S Agreement.

4.8 Each party hereto hereby represents and warrants to the other as follows: (i) each party hereto has all requisite power and authority to enter into this V&S Agreement and to consummate the transactions contemplated hereby, (ii) the execution and delivery of this V&S Agreement and the consummation by such party of the transactions contemplated hereby have been duly authorized by all necessary action on the part of such party, (iii) this V&S Agreement has been duly and validly executed and delivered by such party and constitutes the valid and binding obligation of such party, enforceable against such party in accordance with its terms and (iv) the execution and delivery of this V&S Agreement and the consummation by such party of the transactions contemplated hereby does not and will not (a) require the consent of or registration with any court, federal state, local or foreign governmental or regulatory body, or (b) constitute a default (with or without notice or lapse of time, or both) under or conflict with any contract or order to which such party is a party or by which such party or any of its properties or assets is subject or bound. Each party hereto further represents and warrants to the other parties hereto that it has not assigned any claims against any party hereto to any third party.

4.9 This V&S Agreement may be executed (including via facsimile) in any number of counterparts each of which shall be deemed an original, but all the counterparts shall together constitute one and the same instrument. It shall not be a necessary that the signature of, or on behalf of, each party hereto appears on each counterpart but it shall be sufficient that the signature of, or on behalf of, each party hereto appears on one or more of the counterparts.

IN WITNESS WHEREOF, the authorised representatives of the parties hereto have executed and delivered this V&S Agreement as a deed as of the last date set forth below, and upon it execution, this V&S Agreement becomes effective as of the Effective Date.

Executed as a deed for and on behalf of **PHARMATHENE, INC.**

By: _____

Name: _____

Position: _____

Date: _____

Executed as a deed for and on behalf of **PHARMATHENE UK LIMITED**

By: _____

Name: _____

Position: _____

Date: _____

By: _____

Name: _____

Position: _____

Date: _____

Executed as a deed for and on behalf of **AVECIA INVESTMENTS LIMITED**

By: /s/ Duncan McLellan

Name: Duncan McLellan

Position: Director

Date: 17 June 2009

By: /s/ A.P. Cree

Name: Mr. A.P. Cree

Position: General Counsel & Company Secretary

Date: 17 June 2009

Executed as a deed for and on behalf of **AVECIA BIOLOGICS LIMITED**

By: /s/ Duncan McLellan

Name: Duncan McLellan

Position: Director

Date: 17 June 2009

By: /s/ A.P. Cree

Name: Mr. A.P. Cree

Position: General Counsel & Company Secretary

Date: 17 June 2009

Executed as a deed for and on behalf of **AVECIA BIOLOGICS INC.**

By: _____

Name: _____

Position: _____

Date: _____

By: _____

Name: _____

Position: _____

Date: _____

Executed as a deed for and on behalf of **AVECIA BIOLOGICS LIMITED**

By: /s/ Duncan McLellan

Name: Duncan McLellan

Position: Director

Date: 17 June 2009

By: /s/ A.P. Cree

Name: Mr. A.P. Cree

Position: General Counsel & Company Secretary

Date: 17 June 2009

Executed as a deed for and on behalf of **AVECIA BIOLOGICS INC.**

By: /s/ Gordon Russell

Name: Gordon Russell

Position: Treasurer

Date: 17 June 2009

By: /s/ A Topping

Name: A Topping

Position: Vice President

Date: 06/17/09

Executed as a deed for and on behalf of **AVECIA LIMITED**

By: /s/ Duncan McLellan

Name: Duncan McLellan

Position: Director

Date: 17 June 2009

By: /s/ A.P. Cree

Name: Mr. A.P. Cree

Position: General Counsel & Company Secretary

Date: 17 June 2009

Attachment 2.1(b)

[* * *]

Attachment 2.1(d)

[* * *]

[* * *]

Attachment 2.5

List of Acquired Property

[* * *]

[* * *]

[* * *]

Exhibit 31.1

Certification of Principal Executive Officer
Pursuant to SEC Rule 13a-14(a)/15d-14(a)

I, David P. Wright, certify that:

1. I have reviewed this Form 10-Q of PharmAthene, Inc. for the quarter ended June 30, 2009;

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 statement 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.

Dated: August 13, 2009

/s/ David P. Wright
Name: **David P. Wright**
Title: **Chief Executive Officer**

Exhibit 31.2

Certification of Principal Financial Officer
Pursuant to SEC Rule 13a-14(a)/15d-14(a)

I, Christopher C. Camut certify that:

1. I have reviewed this Form 10-Q of PharmAthene, Inc. for the quarter ended June 30, 2009;

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 statement 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.

Dated: August 13, 2009

/s/ Christopher C. Camut
Name: **Christopher C. Camut**
Title: **Chief Financial Officer**

Exhibit 32.1

Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code

In connection with the Quarterly Report of PharmAthene, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2009, as filed with the Securities and Exchange Commission (the "Report"), I, David P. Wright, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 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

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ David P. Wright

David P. Wright
Chief Executive Officer
August 13, 2009

Exhibit 32.2

Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code

In connection with the Quarterly Report of PharmAthene, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2009, as filed with the Securities and Exchange Commission (the "Report"), I, Christopher C. Camut, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 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

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Christopher C. Camut

Christopher C. Camut
Chief Financial Officer
August 13, 2009