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November 16, 2009

Jeffrey Riedler  
Scott Foley  
Division of Corporation Finance  
United States Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549

**Re: PharmAthene, Inc.  
Amendment No. 1 to Registration Statement on Form S-3  
Filed August 31, 2009  
File No. 333-161587**

Dear Messrs. Riedler and Foley:

By letter dated September 17, 2009 (the "September Comment Letter"), the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") provided comments on Amendment No. 1 to Registration Statement on Form S-3 filed by PharmAthene, Inc. (the "Company") with the Commission on August 31, 2009 (File No. 333-161587) (the "Registration Statement"). The Company responded to such comments by letter dated October 14, 2009 (the "October Response Letter"). By letter dated November 6, 2009 (the "November Comment Letter"), the Staff provided further comments on Amendment No. 1 to the Registration Statement.

This letter sets forth the Company's responses to the Staff's comments contained in the November Comment Letter. For your convenience, we have reproduced below in italics each comment and have provided the Company's response immediately below the comment. Terms used but not defined herein have the meaning specified in the October Response Letter.

Form S-3

General

- We note your response to comment 1. After careful consideration of your analysis, we are unable to concur with your conclusion that your proposed transaction should be treated as a secondary offering. We understand that the conversion price is not a discount to the market price and that the conversion price does not adjust relative to the market price of the underlying common stock.*

<i>Brussels</i>	<i>Chicago</i>	<i>Dallas</i>	<i>Kansas City</i>	<i>Los Angeles</i>	<i>New York</i>	<i>Phoenix</i>	<i>St. Louis</i>
	<i>San Francisco</i>	<i>Short Hills, N.J.</i>	<i>Silicon Valley</i>	<i>Washington, D.C.</i>	<i>Zurich</i>		

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*Our conclusion that the offering is a primary offering is due to the fact that you are registering the resale of shares constituting 85.1% of your current public float. Given the size relative to the number of shares outstanding held by non-affiliates, the nature of the offering and the selling security holders, the transaction appears to be a primary offering. Please revise your registration statement onto a form you are eligible to use for a primary offering, identify the selling shareholders as underwriters and set a price for the offering. Alternatively, reduce the size of your offering.*

Response:

In light of the November 25, 2009 deadline for effectiveness of the Registration Statement imposed by the Registration Rights Agreement, the Company will reduce the number of shares included in the Registration Statement to an amount equal to one-third of the number of shares outstanding immediately prior to the Financing that were held by non-affiliates of the Company, by amending the Registration Statement in Amendment No. 2 ("Amendment No. 2") to register for resale one-third of 13,747,978 shares, which represented the Company's public float immediately prior to the Financing, or 4,582,659 shares. We understand that the Staff is considering whether it may be appropriate for the Company to register a greater number of shares, and if such a determination is made, the Company will either amend the Registration Statement or file a new registration statement, as appropriate.

- We note your responses to comments 4 and 5. We understand that the market price at the time of the transaction was less than the conversion price and that a conversion at the time would have resulted in a loss. Please present the requested information showing the loss the security holders would realize as a result of a conversion.*

Response:

In response to the Staff's comment 2, the Company proposes to add the disclosure appearing below to Amendment No. 2:

Possible Profit/(Loss) to Selling Stockholders with Respect to Conversion or Exercise of Company Securities

The tables below summarize the total possible profit/(loss) that the selling stockholders or their affiliates could have realized as a result of (a) the conversion of the 10% Convertible Notes, (b) the exercise of the related warrants and (c) the exercise of any options to purchase our

common stock, assuming conversion or exercise on the date of sale or date of grant, as applicable:

Security	Market price per share on date of sale(1)	Conversion price per share(2)	Total number of underlying shares(3)	Combined market price of total number of underlying shares	Combined conversion price of total number of underlying shares	Total possible profit/(loss) realizable by selling stockholders
10% Convertible Notes	\$ 2.50	\$ 2.541667	9,131,235	\$ 22,828,087.50	\$ 23,208,558.67	\$ (380,471.17)

- (1) Represents the closing price per share of our common stock on the NYSE Amex on July 24, 2009, the trading day immediately preceding the time that we entered into the binding agreement to issue the 10% Convertible Notes and related warrants.
- (2) The conversion price is subject to customary antidilution adjustments, including in the event of a stock dividend, stock split or stock combination, recapitalization or reorganization, merger or consolidation, sale of all or substantially all of our assets, distribution of debt or assets to our stockholders and in connection with certain other dilutive equity issuances.
- (3) This amount includes (a) up to 7,591,790 shares issuable upon conversion of the aggregate principal amount of the 10% Convertible Notes, and (b) up to 1,539,445 shares issuable in respect of interest that has begun accruing and will continue to accrue throughout the term of the notes.

Security	Market price per share on date of sale(1)	Exercise price per share (2)	Total number of underlying shares	Combined market price of total number of underlying shares	Combined exercise price of total number of underlying shares	Total possible profit/(loss) realizable by selling stockholders
Warrants related to 10% Convertible Notes	\$ 2.50	\$ 2.50	2,572,775	\$ 6,431,937.50	\$ 6,431,937.50	\$ 0.00

- (1) Represents the closing price per share of our common stock on the NYSE Amex on July 24, 2009, the trading day immediately preceding the time that we entered into the binding agreement to issue the 10% Convertible Notes and related warrants.
- (2) The exercise price is subject to customary antidilution adjustments, including in the event of a stock dividend, stock split or stock combination, recapitalization or reorganization, merger or consolidation, sale of all or substantially all of our assets, distribution of debt or assets to our stockholders and in connection with certain other dilutive equity issuances.

Selling Stockholder	Option Grant Date	Market price per share on grant date	Exercise price per share on grant date	Total number of underlying shares	Combined market price of total number of underlying shares	Combined exercise price of total number of underlying shares	Total possible profit/(loss) realizable by selling stockholder/affiliate
Chris Camut	1/4/2007	\$ 3.80	\$ 3.80	44,172	\$ 167,854	\$ 167,854	\$ 0
	10/2/2007	\$ 5.20	\$ 5.20	215,000	\$ 1,118,000	\$ 1,118,000	\$ 0
	1/21/2009	\$ 2.46	\$ 2.46	25,308	\$ 62,258	\$ 62,258	\$ 0
Healthcare Ventures VII, L.P.(1)	9/11/2003	\$ 2.96	\$ 2.96	1,655	\$ 4,899	\$ 4,899	\$ 0
	1/18/2006	\$ 3.80	\$ 3.80	1,104	\$ 4,195	\$ 4,195	\$ 0
	10/9/2007	\$ 5.25	\$ 5.25	20,000	\$ 105,000	\$ 105,000	\$ 0
	3/9/2009	\$ 2.53	\$ 2.59	10,000	\$ 25,300	\$ 25,900	\$ (600)
	8/5/2009	\$ 2.47	\$ 2.47	20,000	\$ 49,400	\$ 49,400	\$ 0
Joel McCleary	9/11/2003	\$ 2.96	\$ 2.96	1,655	\$ 4,899	\$ 4,899	\$ 0
	1/18/2006	\$ 3.80	\$ 3.80	1,104	\$ 4,195	\$ 4,195	\$ 0
	10/9/2007	\$ 5.25	\$ 5.25	20,000	\$ 105,000	\$ 105,000	\$ 0
	4/28/2008	\$ 2.97	\$ 2.97	50,000	\$ 148,500	\$ 148,500	\$ 0
	3/9/2009	\$ 2.53	\$ 2.59	10,000	\$ 25,300	\$ 25,900	\$ (600)
	8/5/2009	\$ 2.47	\$ 2.47	20,000	\$ 49,400	\$ 49,400	\$ 0
MPM(2)	1/18/2006	\$ 3.80	\$ 3.80	1,104	\$ 4,195	\$ 4,195	\$ 0
	10/9/2007	\$ 5.25	\$ 5.25	20,000	\$ 105,000	\$ 105,000	\$ 0
	3/9/2009	\$ 2.53	\$ 2.59	10,000	\$ 25,300	\$ 25,900	\$ (600)
Mary Pappajohn(3)	8/5/2009	\$ 2.47	\$ 2.47	20,000	\$ 49,400	\$ 49,400	\$ 0
	10/9/2007	\$ 5.25	\$ 5.25	20,000	\$ 105,000	\$ 105,000	\$ 0
	3/9/2009	\$ 2.53	\$ 2.59	10,000	\$ 25,300	\$ 25,900	\$ (600)
Eric Richman	11/15/2003	\$ 2.96	\$ 2.96	28,638	\$ 84,768	\$ 84,768	\$ 0
	1/18/2005	\$ 3.80	\$ 3.80	11,043	\$ 41,963	\$ 41,963	\$ 0
	2/22/2006	\$ 3.80	\$ 3.80	4,510	\$ 17,138	\$ 17,138	\$ 0

Selling Stockholder	Option Grant Date	Market price per share on grant date	Exercise price per share on grant date	Total number of underlying shares	Combined market price of total number of underlying shares	Combined exercise price of total number of underlying shares	Total possible profit/(loss) realizable by selling stockholder/affiliate
	1/4/2007	\$ 3.80	\$ 3.80	8,282	\$ 31,472	\$ 31,472	\$ 0
	10/2/2007	\$ 5.20	\$ 5.20	260,000	\$ 1,352,000	\$ 1,352,000	\$ 0
	1/21/2009	\$ 2.46	\$ 2.46	30,573	\$ 75,210	\$ 75,210	\$ 0
	10/9/2007	\$ 5.25	\$ 5.25	20,000	\$ 105,000	\$ 105,000	\$ 0
Derace Schaffer	3/9/2009	\$ 2.53	\$ 2.59	10,000	\$ 25,300	\$ 25,900	\$ (600)
	8/5/2009	\$ 2.47	\$ 2.47	20,000	\$ 49,400	\$ 49,400	\$ 0
	7/15/2003	\$ 2.96	\$ 2.96	82,714	\$ 244,833	\$ 244,833	\$ 0
	1/18/2005	\$ 3.80	\$ 3.80	69,130	\$ 262,694	\$ 262,694	\$ 0
David Wright	2/22/2006	\$ 3.80	\$ 3.80	13,803	\$ 52,451	\$ 52,451	\$ 0
	1/4/2007	\$ 3.80	\$ 3.80	16,556	\$ 62,913	\$ 62,913	\$ 0
	8/30/2007	\$ 5.36	\$ 5.36	780,000	\$ 4,180,800	\$ 4,180,800	\$ 0
	1/21/2009	\$ 2.46	\$ 2.46	37,185	\$ 91,475	\$ 91,475	\$ 0

(1) Dr. James Cavanaugh is a general partner of the entity that serves as general partner of Healthcare Ventures VII, L.P.

(2) Dr. Steven St. Peter is an affiliate of MPM.

(3) Mary Pappajohn is the wife of John Pappajohn, the chairman of our Board of Directors..

\* \* \*

The Company respectfully advises the Staff that there are no provisions for adjustment to the Conversion Price based upon market price, with respect to the 10% Convertible Notes.

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3. Please revise your response to comment 6 to include the one-time liquidated damages in the line item "Payments Made or Required to be Made to Selling Shareholders and Affiliates."

The Company proposes to add the disclosure appearing below to Amendment No. 2:

Comparison of Proceeds:

Gross Proceeds from the Sale of the 10% Convertible Notes and Warrants(1)	\$ 19,295,802
Less Payments Made or Required to be Made to Selling Stockholders and Affiliates(2)	\$ 4,105,718
Less Estimated Payments Made or Required to be Made to Counsel to MPM and Healthcare Ventures VII, L.P. for certain reasonable legal costs and expenses	\$ 75,000
Resulting Net Proceeds from Sale of the 10% Convertible Notes and Warrants(1)	\$ 15,115,084
Total Possible Discount to Market Price of Stock Registered Hereunder	\$ 0

(1) Represents a combination of canceled debt (8% convertible notes) and new cash. Does not include \$6,431,938 receivable by us upon the full exercise of all warrants.

(2) This amount reflects interest payments we would owe the selling stockholders assuming they hold their 10% Convertible Notes through the maturity date, including a one-time payment of \$192,958.02, payable in the event the Company fails to meet its registration obligations described above, but excluding monthly payments of \$192,958.02, payable each month during which the Company has not cured any failure to meet its registration obligations. We are unable, at this time, to estimate the amount of any other payments that may be required to be made to the selling stockholders in the future.

The total amount of all possible payments payable to the selling stockholders in connection with the sale of the 10% Convertible Notes and warrants reflected in the table above, represents approximately 27.1% of the resulting net proceeds to us from such sale, which is approximately 13.6% per annum averaged over the two-year term of such notes.

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4. Please revise the table presented in response to comment 7 to present the requested information for each selling shareholder rather than presenting the information in the aggregate.

Response:

The Company proposes to add the disclosure appearing below to Amendment No. 2:

## Prior Securities Transactions

The following table and accompanying footnotes show information with respect to the prior securities transactions effected between Healthcare Acquisition Corp. (“HAQ”) and the selling stockholders named in this prospectus (or their affiliates) since HAQ’s initial public offering in August 2005, and do not include any grants of stock options or restricted stock made under our 2007 Long-Term Incentive Compensation Plan, which we refer to as the “2007 Plan.” Except for grants under the 2007 Plan and the sale of the 10% Convertible Notes and warrants in July 2009, we have not effected any securities transactions with the selling stockholders identified in this prospectus (or their affiliates) since merging with HAQ’s wholly-owned subsidiary in August 2007.

Selling Stockholder	Common stock outstanding prior to transaction	Common stock outstanding prior to transaction held by persons other than selling stockholders, their affiliates or our current affiliates	Common stock issued or issuable in transaction	Percentage of common stock issued in the transaction (based on non-affiliate holdings)(1)	Closing market price per share of common stock immediately prior to transaction (2)	Closing market price per share of common stock on 11/11/09
<b>August 3, 2007 Merger of the Company into wholly-owned subsidiary of HAQ (the “2007 Merger”)</b>						
Joel McCleary(3)	11,650,000	8,595,000	104,083	1.21%	\$ 6.89	\$ 3.71
Eric Richman(4)	11,650,000	8,595,000	814	0.01%	\$ 6.89	\$ 3.71
Jerome Parks(5)	11,650,000	8,595,000	5,320	0.06%	\$ 6.89	\$ 3.71
Ronald Kaiser(6)	11,650,000	8,595,000	820	0.01%	\$ 6.89	\$ 3.71

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Selling Stockholder	Common stock outstanding prior to transaction	Common stock outstanding prior to transaction held by persons other than selling stockholders, their affiliates or our current affiliates	Common stock issued or issuable in transaction	Percentage of common stock issued in the transaction (based on non-affiliate holdings)(1)	Closing market price per share of common stock immediately prior to transaction (2)	Closing market price per share of common stock on 11/11/09
Ontario Teachers’ Pension Plan Board(7)	11,650,000	8,595,000	855,261	9.95%	\$ 6.89	\$ 3.71
David Wright(8)	11,650,000	8,595,000	107,135	1.25%	\$ 6.89	\$ 3.71
Healthcare Ventures VII, L.P.(9)	11,650,000	8,595,000	3,498,748	40.71%	\$ 6.89	\$ 3.71
MPM Entities(10)	11,650,000	8,595,000	3,960,396	46.08%	\$ 6.89	\$ 3.71

- (1) Ratio shown is of (i) common stock issued or issuable in connection with transaction to (ii) undiluted common stock outstanding prior to transaction held by persons other than selling stockholders or their affiliates or our current affiliates.
- (2) Reflects the closing price of common stock on the American Stock Exchange on August 2, 2007.
- (3) Contains 2,673 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes.
- (4) Consists of 814 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes.
- (5) Consists of 5,320 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes.
- (6) Consists of 820 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes.
- (7) Contains 87,693 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes.
- (8) Contains 2,673 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes.

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- (9) Contains 181,505 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes.
- (10) Contains 470,953 shares issuable upon conversion of principal amount of formerly outstanding 8% Notes, which were exchanged for 10% Convertible Notes. “MPM Entities” include MPM Asset Management Investors, 2004 BVIII LLC, MPM Bioventures III, L.P., MPM Bioventures III GmbH & Co. Beteiligungs KG, MPM Bioventures III Parallel Fund, L.P. and MPM Bioventures III-QP, L.P.

As furthermore discussed with Mr. Foley on November 4, 2009, the October Response Letter contained an error on page 13 thereof, in that it stated that affiliates of the Company would be subject to short-swing profit liability if they sold any of the shares that are sought to be registered within six months of the financing. As explained to Mr. Foley, this paragraph was inadvertently included in the letter and the Company hereby disclaims such paragraph.

Should you have any questions, or if we can provide any further clarification, please do not hesitate to call the undersigned at (973) 912-7189 or Roland S. Chase at (973) 912-7179.

Very truly yours,

/s/ Jeffrey A. Baumel

Jeffrey A. Baumel

Cc: Jordan P. Karp, PharmAthene, Inc.  
William Hicks, Edwards Angell Palmer & Dodge  
Robert Steenblik, Latham & Watkins