

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

FORM 8-K

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

Date of Report (Date of earliest event reported): **April 3, 2007**

HEALTHCARE ACQUISITION CORP.

(Exact Name of Registrant as Specified in Charter)

Delaware

(State or Other Jurisdiction
of Incorporation)

001-32587

(Commission
File Number)

20-2726770

(IRS Employer
Identification No.)

**2116 Financial Center 666 Walnut Street
Des Moines, Iowa**

(Address of Principal Executive Offices)

50309

(Zip Code)

Registrant's telephone number, including area code: **(515) 244-5746**

Not Applicable

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 8.01. Other Events

On January 22, 2007, Healthcare Acquisition Corp. (“HAQ”) announced that it and its wholly-owned subsidiary, PAI Acquisition Corp. (“PAI”), entered into an Agreement and Plan of Merger (the “Merger Agreement”) with PharmAthene, Inc., a Delaware corporation (“PharmAthene”), pursuant to which PAI will merge into PharmAthene and PharmAthene will become a wholly-owned subsidiary of HAQ. On February 9, 2007, HAQ filed a Preliminary Proxy on Schedule 14A with the Securities and Exchange Commission with respect to the special meeting of its stockholders it will call to approve the Merger Agreement and the transactions contemplated by the Merger Agreement.

On April 3, 2007, PharmAthene issued the attached press release related to its recombinant Butyrylcholinesterase (rBChE) program.

Item 9.01. Financial Statements and Exhibits

(c) Exhibits:

Exhibit 99.1

Press release dated April 3, 2007

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: April 3, 2007

HEALTHCARE ACQUISITION CORP.

By: /s/ Matthew P. Kinley
Matthew P. Kinley
President

Contact:

Stacey Jurchison
Director, Corporate Communications
PharmAthene, Inc.
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FOR IMMEDIATE RELEASE

**PHARMATHENE'S RECOMBINANT BUTYRYLCHOLINESTERASE (rBChE)
PROGRAM THE SUBJECT OF PROMISING NEW ALZHEIMER'S RESEARCH**

In Vitro Assays Show rBChE Suppresses Amyloid Plaque Formation

ANNAPOLIS, MARYLAND, April 3, 2007— PharmAthene, Inc., a leading biodefense company specializing in the development and commercialization of medical countermeasures against chemical and biological terrorism, announced today that new data from its recombinant butyrylcholinesterase (rBChE) research program were recently presented at the 8th International Conference on Alzheimer's and Parkinson's Diseases in Salzburg, Austria.

New research conducted by Dr. Hermona Soreq and co-workers at the Alexander Silberman Life Sciences Institute at The Hebrew University of Jerusalem, in collaboration with PharmAthene, examined the role of recombinant butyrylcholinesterase (rBChE) in the formation of amyloid plaques, which are believed to play a crucial role in the development of Alzheimer's disease.

The data presented by Drs. Soreq and Langermann, Vice President and Chief Scientific Officer for PharmAthene, show that rBChE can effectively block the formation of amyloid fibrils, precursors to plaque formation in the brain, potentially attenuating neurotoxicity. These data were substantiated by transmission electron microscopy studies, which showed that rBChE dramatically suppressed the formation of fibrils, resulting in shorter, thinner and less branched filaments than would normally occur in patients with Alzheimer's disease.

Alzheimer's disease is a progressive neurodegenerative disease which is estimated to affect more than 4.5 million Americans. One of the hallmarks of Alzheimer's disease is the accumulation of excessive amyloid plaques in areas of the brain that control memory and cognition. Amyloid fibrils are believed to be neurotoxic and interfere with the normal communication between neurons. A growing body of scientific evidence suggests that the accumulation of amyloid plaques and neurofibrillary tangles in the brain may play an important role in the development and progression of Alzheimer's disease.

“The role of amyloid plaques in the pathophysiology of Alzheimer’s disease is well documented, and a number of approaches have been studied which attempt to block their formation by interfering at critical stages in this complex pathway,” commented Hermona Soreq, Ph.D., Professor of Molecular Biology and Dean of Sciences at The Hebrew University. “Our preliminary results are especially intriguing as they suggest that rBChE is effective not only in inhibiting plaque formation, but also in potentially attenuating neurotoxicity. Examination of formed fibrils using a newly-developed, computer-aided and quantified electron microscopy method revealed that rBChE dramatically suppressed the formation of intermediary fibrils in the incubated mixtures which resulted in significantly fewer fibrils that were shorter and thinner than those formed without addition of rBChE. Fibril elongation is believed to be a precursor to amyloid plaque development. Together these results provide compelling evidence that rBChE serves as a natural protector against amyloid toxicity and support the development of rBChE as a therapeutic agent for patients with Alzheimer’s disease.”

“Unlike human plasma-derived butyrylcholinesterase (HuBChE), which can only be produced in limited quantities, PharmAthene’s rBChE is developed using a proprietary production system which enables large scale commercial production,” commented Dr. Solomon Langermann, Vice President and Chief Scientific Officer for PharmAthene. “We are currently evaluating rBChE for the prevention and treatment of nerve agent toxicity and have obtained very promising results showing that rBChE provides enhanced survival without neurological impairment after exposure to nerve agents. To further this research, PharmAthene was recently awarded a contract from the Department of Defense for up to \$213 million to support advanced development of rBChE.”

Dr. Langermann continued, “These recent data suggest a promising new potential therapeutic application for rBChE, which we intend to explore further. Our next steps, in collaboration with Dr. Soreq and her group, will include evaluating rBChE in animal models of Alzheimer’s disease. If the results continue to be encouraging, then it would allow us to expand applications of rBChE therapy to areas other than nerve agent toxicity resulting in broader commercial applications with important benefits to society.”

The work conducted under the Alzheimer’s research program is based on a patent owned by Yissum (the technology transfer company of The Hebrew University of Jerusalem), entitled “*Human BChE Variants as Protectors from Amyloid Diseases*”, which has been licensed to PharmAthene.

About Protexia®: Recombinant Human Butyrylcholinesterase (rBChE)

Protexia is a form of recombinant human butyrylcholinesterase (rBChE), a potent organophosphorus (OP) scavenger protein produced in the milk of transgenic goats, which is being developed for use as a prophylactic against acute organophosphorus (OP) nerve agent toxicity.

Preclinical research conducted by PharmAthene's development partners, the US Army Medical Research Institute of Chemical Defence (USAMRICD) and DRDC Suffield, Defence Research and Development Canada, have demonstrated the capability of Protexia to protect laboratory animals from the toxic effects of chemical nerve agents.

In these studies, pre-treatment with rBChE provided 100% survival against the nerve agents VX and soman. In post-exposure therapeutic studies, administration of rBChE following nerve agent exposure resulted in enhanced survival compared to control animals.

While the utility of BChE to protect against nerve agent exposure is well documented, a major limitation in its development has been the inability to produce it in commercial volumes due to limited raw material availability, low levels of the enzyme in blood, and low production yields using traditional biotechnology methods. To overcome these limitations, PharmAthene has developed a recombinant form of human BChE, (rBChE), utilizing transgenic expression in goats which enables substantially higher production yields. PharmAthene believes that its transgenic technology will have the capacity to produce sufficient rBChE for both military and civilian defence.

About PharmAthene, Inc.

PharmAthene, a privately-held biotechnology company, was formed to meet the critical needs of the United States by developing biodefense products. PharmAthene is dedicated to the rapid development of important and novel biotherapeutics to address biological pathogens and chemicals that may be used as weapons of bioterror. PharmAthene's lead programs include Valortim™ for the prevention and treatment of anthrax infection and Protexia® for the prevention and treatment of morbidity and mortality associated with exposure to chemical nerve agents. For more information on PharmAthene, please visit www.PharmAthene.com.

In January 2007, PharmAthene announced that it had signed a definitive merger agreement with Healthcare Acquisition Corp. (AMEX: HAQ). HAQ has filed with the Securities and Exchange Commission a preliminary proxy statement in connection with the proposed merger transaction involving PharmAthene.

HAQ AND ITS DIRECTORS AND EXECUTIVE OFFICERS AS WELL AS PHARMATHENE AND ITS DIRECTORS AND EXECUTIVE OFFICERS MAY BE DEEMED TO BE PARTICIPANTS IN THE SOLICIATION OF PROXIES FOR THE SPECIAL MEETING OF HAQ'S STOCKHOLDERS TO BE HELD TO APPROVE THE PROPOSED MERGER. SECURITYHOLDERS AND OTHER INTERESTED PERSONS ARE URGED TO READ THE PRELIMINARY PROXY STATEMENT REGARDING THE PROPOSED MERGER FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON FEBRUARY 9, 2007 AND THE AMENDMENTS THEREOF AND THE DEFINITIVE PROXY STATEMENT AS SUCH DOCUMENTS BECOME AVAILABLE AS THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED MERGER. HAQ'S DEFINITIVE PROXY STATEMENT, WHEN AVAILABLE, WILL BE MAILED TO HAQ'S STOCKHOLDERS AS OF A RECORD DATE TO BE ESTABLISHED FOR VOTING ON THE PROPOSED MERGER. STOCKHOLDERS WILL ALSO BE ABLE TO OBTAIN A COPY OF THE DEFINITIVE PROXY STATEMENT, WITHOUT CHARGE, BY DIRECTING A REQUEST TO HAQ AT: **2116 FINANCIAL CENTER, 666 WALNUT STREET, DES MOINES, IOWA 50309**. THE PRELIMINARY PROXY STATEMENT AND DEFINITIVE PROXY STATEMENT, ONCE AVAILABLE, AND THE FINAL PROSPECTUS AND OTHER SEC FILINGS OF HAQ CAN ALSO BE OBTAINED, WITHOUT CHARGE, AT THE SECURITIES AND EXCHANGE COMMISSION'S INTERNET SITE (<http://www.sec.gov>).

HAQ AND PHARMATHENE CLAIM THE PROTECTION OF THE SAFE HARBOR FOR “FORWARD-LOOKING STATEMENTS” WITHIN THE MEANING OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995. FORWARD-LOOKING STATEMENTS ARE STATEMENTS THAT ARE NOT HISTORICAL FACTS. SUCH FORWARD-LOOKING STATEMENTS, BASED UPON THE CURRENT BELIEFS AND EXPECTATIONS OF MANAGEMENT OF HAQ AND PHARMATHENE REGARDING, AMONG OTHER THINGS, THE BUSINESS OF PHARMATHENE AND THE MERGER, ARE SUBJECT TO RISKS AND UNCERTAINTIES, WHICH COULD CAUSE ACTUAL RESULTS TO DIFFER FROM THE FORWARD-LOOKING STATEMENTS.

About Yissum R&D Ltd.

Yissum is the technology transfer company of the Hebrew University of Jerusalem (HU). It is responsible for marketing the inventions and know-how generated by the University’s renowned researchers and students. The University’s range of intellectual property includes inventions and know-how in many fields, including nanotechnology, medicine and pharmaceuticals, agriculture and nutrition, water and environmental technologies, computer science, homeland security and more. Working closely with HU researchers and staff, Yissum actively focuses on making these technologies commercially viable - and desirable, in the marketplace.

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