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

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**FORM 8-K**

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**CURRENT REPORT**  
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported):

May 10, 2010

**Lexicon Pharmaceuticals, Inc.**  
(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

000-30111  
(Commission File Number)

76-0474169  
(I.R.S. Employer  
Identification Number)

8800 Technology Forest Place  
The Woodlands, Texas 77381  
(Address of principal executive  
offices and Zip Code)

(281) 863-3000  
(Registrant's telephone number,  
including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligations of the registrant under any of the following provisions:

- 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 2.02 Results of Operations and Financial Condition

On May 10, 2010, we issued a press release to report our financial results for the quarter ended March 31, 2010. A copy of the press release is attached to this current report on Form 8-K as Exhibit 99.1.

The information in this Form 8-K and the Exhibit attached to this Form 8-K shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 (the “Exchange Act”) or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.

## Item 9.01 Financial Statements and Exhibits

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	— Press Release of Lexicon Pharmaceuticals, Inc. dated May 10, 2010

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## Signatures

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

**Lexicon Pharmaceuticals, Inc.**

Date: May 10, 2010

By: /s/ JEFFREY L. WADE  
Jeffrey L. Wade  
*Executive Vice President and  
General Counsel*

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## Index to Exhibits

**Exhibit No.**

**Description**

99.1

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Press Release of Lexicon Pharmaceuticals, Inc. dated May 10, 2010

## LEXICON PHARMACEUTICALS PROVIDES CLINICAL PIPELINE UPDATE AND REPORTS 2010 FIRST QUARTER RESULTS

CONFERENCE CALL AND WEBCAST AT 11:00 A.M. EASTERN TIME

**The Woodlands, Texas, May 10, 2010** – Lexicon Pharmaceuticals, Inc. (Nasdaq: LXRX), a biopharmaceutical company focused on discovering and developing breakthrough treatments for human disease, today updated its drug development progress and reported financial results for the three months ended March 31, 2010.

“Achieving the remarkable results from our Phase 2a trial of LX4211 in patients with type 2 diabetes was the defining event of the first quarter” said Dr. Arthur T. Sands, president and chief executive officer of Lexicon. “This is the second of our four mid-stage drug development programs to deliver positive proof-of-concept Phase 2a results. In addition, the completion of our recent stock offering has placed us in a strong financial position to execute on our clinical development and business strategies.”

**Key Progress in Clinical Pipeline**

- **Diabetes:** Top-line Phase 2a clinical data from a four-week study of Lexicon’s dual sodium-glucose cotransporter 2 (SGLT2) and SGLT1 inhibitor, LX4211, in patients with type 2 diabetes demonstrated significant and rapid improvements in multiple parameters, including improved glycemic control and reduced HbA1c. Also noted in this study were trends toward reduced weight, blood pressure, and triglyceride levels.
  - **Irritable Bowel Syndrome:** Lexicon recently presented additional findings demonstrating that measures of 5-HIAA, a biomarker of serotonin synthesis, could distinguish between patients with irritable bowel syndrome (IBS) who responded to LX1031 in its Phase 2a clinical trial versus those that did not. LX1031 is an inhibitor of tryptophan hydroxylase that acts locally in the gastrointestinal tract to reduce serotonin synthesis. Top-line data from the trial demonstrated that the high dose of LX1031 produced statistically-significant improvements in a global assessment of relief of IBS pain and discomfort and in stool consistency as compared to placebo — clinical benefits that corresponded with a reduction in serotonin synthesis. The results from additional analyses were presented at the Digestive Disease Week Convention in New Orleans.
  - **Rheumatoid Arthritis:** Lexicon expanded its Phase 2a clinical trial of its drug candidate for rheumatoid arthritis, LX2931, an inhibitor of sphingosine-1-phosphate (S1P) lyase. The study is being conducted at multiple centers in the United States and Eastern Europe and is expected to enroll approximately 200 patients. Top-line data are expected to be available around the end of the year.
  - **Carcinoid Syndrome:** Lexicon initiated an open-label, Phase 2a trial in Europe of its drug candidate for carcinoid syndrome, LX1032, an inhibitor of tryptophan hydroxylase that reduces peripheral serotonin production without affecting brain serotonin levels. Enrollment is continuing in the separate placebo-controlled, Phase 2a trial in the United States. Top-line data from both trials are expected to be available in the second half of 2010.
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## Financial Results and Events

In March 2010, Lexicon completed an offering of its common stock resulting in net proceeds to Lexicon of approximately \$181.5 million.

**Revenues:** Lexicon's revenues for the three months ended March 31, 2010 decreased 61 percent to \$1.6 million from \$4.2 million for the corresponding period in 2009. The decrease for the three months ended March 31, 2010 was primarily attributable to reduced revenues under Lexicon's alliance agreements with N.V. Organon and Bristol-Myers Squibb Company.

**Research and Development Expenses:** Research and development expenses for the three months ended March 31, 2010 decreased eight percent to \$21.1 million from \$22.9 million for the corresponding period in 2009. The decrease was primarily attributable to lower salary and benefit costs, partially offset by higher external clinical research and development costs.

**General and Administrative Expenses:** General and administrative expenses for the three months ended March 31, 2010 increased 13 percent to \$5.5 million from \$4.9 million for the corresponding period in 2009. The increase was primarily attributable to higher patent-related legal costs.

**Net Loss Attributable to Lexicon Pharmaceuticals, Inc.:** Net loss for the three months ended March 31, 2010 was \$26.1 million, or \$0.13 per share, compared to a net loss of \$21.6 million, or \$0.16 per share, in the corresponding period in 2009. For the three months ended March 31, 2010, net loss included non-cash, stock-based compensation expense of \$1.3 million, compared to \$1.4 million in the corresponding period in 2009.

**Cash and Investments:** As of March 31, 2010, Lexicon had \$278.7 million in cash and investments net of its obligations under the credit line secured by its auction rate securities, as compared to \$125.1 million as of December 31, 2009. Lexicon's cash and investments at December 31, 2009 included \$5.4 million held by Symphony Icon, Inc. As a result of Lexicon's adoption as of January 1, 2010 of a new accounting pronouncement regarding variable interest entities, the results of Symphony Icon are no longer consolidated in Lexicon's financial statements after December 31, 2009. Accordingly, Lexicon's cash and investments at March 31, 2010 do not include the \$4.4 million in cash and investments held by Symphony Icon at March 31, 2010.

### Lexicon Conference Call:

Lexicon management will hold a conference call to discuss its clinical development progress and financial results for the first quarter of 2010 at 11:00 a.m. Eastern Time on May 10, 2010. The dial-in number for the conference call is 888-220-1244 (within the US/Canada) or 706-679-5615 (international). The conference ID for all callers is 71087289. Investors can access [www.lexpharma.com](http://www.lexpharma.com) to listen to a live webcast of the call. The webcast will be archived and available for review through May 17, 2010.

### About Lexicon

Lexicon is a biopharmaceutical company focused on discovering and developing breakthrough treatments for human disease. Lexicon currently has four drug candidates in mid-stage development for diabetes, irritable bowel syndrome, carcinoid syndrome and rheumatoid arthritis, all of which were discovered by Lexicon's research team. Lexicon has used its proprietary gene knockout technology to identify more than 100 promising drug targets. Lexicon has focused drug discovery efforts on these biologically-validated targets to create its extensive pipeline of clinical and preclinical programs. For additional information about Lexicon and its programs, please visit [www.lexpharma.com](http://www.lexpharma.com).

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**Safe Harbor Statement**

*This press release contains “forward-looking statements,” including statements relating to Lexicon’s clinical development of LX1031, LX1032, LX2931, and LX4211 and the potential therapeutic and commercial potential of LX1031, LX1032, LX2931, and LX4211. This press release also contains forward-looking statements relating to Lexicon’s growth and future operating results, discovery and development of products, strategic alliances and intellectual property, as well as other matters that are not historical facts or information. All forward-looking statements are based on management’s current assumptions and expectations and involve risks, uncertainties and other important factors, specifically including those relating to Lexicon’s ability to successfully conduct clinical development of LX1031, LX1032, LX2931, and LX4211 and preclinical and clinical development of its other potential drug candidates, advance additional candidates into preclinical and clinical development, obtain necessary regulatory approvals, achieve its operational objectives, obtain patent protection for its discoveries and establish strategic alliances, as well as additional factors relating to manufacturing, intellectual property rights, and the therapeutic or commercial value of its drug candidates, that may cause Lexicon’s actual results to be materially different from any future results expressed or implied by such forward-looking statements. Information identifying such important factors is contained under “Factors Affecting Forward-Looking Statements” and “Risk Factors” in Lexicon’s annual report on Form 10-K for the year ended December 31, 2009, as filed with the Securities and Exchange Commission. Lexicon undertakes no obligation to update or revise any such forward-looking statements, whether as a result of new information, future events or otherwise.*

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**Contact for Lexicon:**

D. Wade Walke  
Senior Director, Corporate Communications  
281/863-3046  
wwalke@lexpharma.com

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Lexicon Pharmaceuticals, Inc.

Selected Financial Data

Consolidated Statements of Operations Data (In thousands, except per share data)	Three Months Ended March 31,	
	2010	2009
	(unaudited)	
Revenues:		
Collaborative research	\$ 1,641	\$ 3,605
Subscription and license fees	—	563
Total revenues	1,641	4,168
Operating expenses:		
Research and development, including stock-based compensation of \$806 and \$829, respectively	21,088	22,864
General and administrative, including stock-based compensation of \$499 and \$613, respectively	5,519	4,874
Total operating expenses	26,607	27,738
Loss from operations	(24,966)	(23,570)
Gain on investments, net	88	517
Interest income	217	327
Interest expense	(727)	(666)
Other expense, net	(682)	(945)
Consolidated net loss	(26,070)	(24,337)
Less: Net loss attributable to noncontrolling interest in Symphony Icon, Inc.	—	2,777
Net loss attributable to Lexicon Pharmaceuticals, Inc.	\$ (26,070)	\$ (21,560)
Net loss attributable to Lexicon Pharmaceuticals, Inc. per common share, basic and diluted	\$ (0.13)	\$ (0.16)
Shares used in computing net loss attributable to Lexicon Pharmaceuticals, Inc. per common share, basic and diluted	197,239	137,075

Consolidated Balance Sheet Data (In thousands)	As of March 31,	As of December 31,
	2010	2009
	(unaudited)	
Cash and investments <sup>(1)</sup>	\$ 314,181	\$ 162,513
Obligations under line of credit	(35,531)	(37,435)
Cash and investments, net of obligations under line of credit <sup>(1)</sup>	278,650	125,078
Property and equipment, net	57,850	58,754
Goodwill	25,798	25,798
Total assets	409,211	257,761
Deferred revenue	14,788	15,154
Current and long-term debt, including line of credit	64,798	66,964
Noncontrolling interest in Symphony Icon, Inc.	—	(290)
Accumulated deficit	(597,701)	(570,175)
Total Lexicon Pharmaceuticals, Inc. stockholders' equity	318,905	163,787

<sup>(1)</sup> Cash and investments at December 31, 2009 included \$5.4 million held by Symphony Icon, Inc. As a result of Lexicon's adoption as of January 1, 2010 of a new accounting pronouncement regarding variable interest entities, the results of Symphony Icon are no longer consolidated in Lexicon's financial statements after December 31, 2009. Accordingly, cash and investments at March 31, 2010 do not include the \$4.4 million in cash and investments held by Symphony Icon at March 31, 2010.