

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

Check this box  
if no longer  
subject to  
Section 16.  
Form 4 or  
Form 5  
obligations  
may continue.  
*See* Instruction  
1(b).

## STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
Section 17(a) of the Public Utility Holding Company Act of 1935 or Section  
30(h) of the Investment Company Act of 1940

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burden hours per  
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(Print or Type Responses)

1. Name and Address of Reporting Person \*  
Margolis Jeff Eliot

2. Issuer Name **and** Ticker or Trading Symbol  
RespireRx Pharmaceuticals Inc.  
[RSPI]

### 5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

C/O RESPIRERX  
PHARMACEUTICALS INC., 126  
VALLEY ROAD

3. Date of Earliest Transaction  
(Month/Day/Year)  
07/15/2016

☒ Director                      ☐ 10% Owner  
☒ Officer (give title below)      ☐ Other (specify below)  
 VP, Treasurer & Secretary

(Street)

4. If Amendment, Date Original  
Filed(Month/Day/Year)

6. Individual or Joint/Group Filing (Check Applicable Line)  
  X   Form filed by One Reporting Person  
       Form filed by More than One Reporting Person

GLEN ROCK, NJ 07452

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 3. A. Deemed Execution Date, if any (Month/Day/Year) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------|
|                                 |                                      |                                                      | Code V Amount (A) or (D) Price                                    |                                                                                               |                                                          |                                                       |
| Common Stock                    | 07/15/2016                           |                                                      | G <sup>(1)</sup> 10,134,944 D \$ 0 <sup>(1)</sup>                 | 0                                                                                             | D                                                        |                                                       |
| Common Stock                    | 07/15/2016                           |                                                      | G <sup>(1)</sup> 10,000,000 A \$ 0 <sup>(1)</sup>                 | 10,000,000                                                                                    | I                                                        | By Trust <sup>(2)</sup>                               |
| Common Stock                    | 07/15/2016                           |                                                      | G <sup>(1)</sup> 134,944 A \$ 0 <sup>(1)</sup>                    | 134,944                                                                                       | I                                                        | By Trust <sup>(3)</sup>                               |
| Common Stock                    | 07/15/2016                           |                                                      | G <sup>(1)</sup> 5,000,000 D \$ 0 <sup>(1)</sup>                  | 0                                                                                             | I                                                        | By Spouse                                             |
|                                 | 07/15/2016                           |                                                      | G <sup>(1)</sup> 1,000,000 A                                      | 1,000,000                                                                                     | I                                                        |                                                       |

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|                 |            |  |      |           |             |             |           |                      |
|-----------------|------------|--|------|-----------|-------------|-------------|-----------|----------------------|
| Common<br>Stock |            |  |      |           | \$ 0<br>(1) |             |           | By Trust<br>(5)      |
| Common<br>Stock | 07/15/2016 |  | G(1) | 4,000,000 | A           | \$ 0<br>(1) | 4,000,000 | I<br>By Trust<br>(4) |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.**

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(9-02)

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned**  
(e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)                            | 2. Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security | 3. Transaction Date<br>(Month/Day/Year) | 3A. Deemed<br>Execution Date, if<br>any<br>(Month/Day/Year) | 4. Transaction<br>Code<br>(Instr. 8) | 5. Number of Derivative<br>Securities Acquired (A) or<br>Disposed of (D)<br>(Instr. 3, 4, and 5) | 6. Date Exercisable and<br>Expiration Date<br>(Month/Day/Year) |                    | 7. Title and<br>Underlying<br>(Instr. 3 a) |                 |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|--------------------------------------------|-----------------|
|                                                                                |                                                                    |                                         |                                                             |                                      |                                                                                                  | Date<br>Exercisable                                            | Expiration<br>Date | Title                                      |                 |
|                                                                                |                                                                    |                                         |                                                             | Code                                 | V                                                                                                | (A)                                                            | (D)                |                                            |                 |
| Warrants<br>(right to<br>buy)                                                  | \$ 0.021                                                           | 07/15/2016                              |                                                             | G <sup>(1)</sup>                     |                                                                                                  |                                                                | 787,363            | <u>(6)</u> 09/30/2020                      | Common<br>Stock |
| Warrants<br>(right to<br>buy)                                                  | \$ 0.021                                                           | 07/15/2016                              |                                                             | G <sup>(1)</sup>                     |                                                                                                  | 787,363                                                        |                    | <u>(6)</u> 09/30/2020                      | Common<br>Stock |
| Warrants<br>(right to<br>buy)                                                  | \$ 0.021                                                           | 07/15/2016                              |                                                             | G <sup>(1)</sup>                     |                                                                                                  |                                                                | 787,363            | <u>(6)</u> 09/30/2020                      | Common<br>Stock |
| Warrants<br>(right to<br>buy)                                                  | \$ 0.021                                                           | 07/15/2016                              |                                                             | G <sup>(1)</sup>                     |                                                                                                  | 787,363                                                        |                    | <u>(6)</u> 09/30/2020                      | Common<br>Stock |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0227                                                          | 07/15/2016                              |                                                             | G <sup>(1)</sup>                     |                                                                                                  |                                                                | 15,000,000         | <u>(7)</u> 03/31/2021                      | Common<br>Stock |
| Common<br>Stock<br>Options<br>(to<br>purchase                                  | \$ 0.0227                                                          | 07/15/2016                              |                                                             | G <sup>(1)</sup>                     |                                                                                                  | 13,000,000                                                     |                    | <u>(7)</u> 03/31/2021                      | Common<br>Stock |

|                                                                                |           |            |                        |           |            |            |                 |  |
|--------------------------------------------------------------------------------|-----------|------------|------------------------|-----------|------------|------------|-----------------|--|
| shares of<br>Common<br>Stock)                                                  |           |            |                        |           |            |            |                 |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0227 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 2,000,000 | <u>(7)</u> | 03/31/2021 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0227 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 9,000,000 | <u>(7)</u> | 03/31/2021 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0227 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 7,000,000 | <u>(7)</u> | 03/31/2021 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0227 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 2,000,000 | <u>(7)</u> | 03/31/2021 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0197 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 7,000,000 | <u>(8)</u> | 08/18/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to                                              | \$ 0.0197 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 4,500,000 | <u>(8)</u> | 08/18/2022 | Common<br>Stock |  |

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|                                                                                |           |            |                        |            |            |            |                 |  |
|--------------------------------------------------------------------------------|-----------|------------|------------------------|------------|------------|------------|-----------------|--|
| purchase<br>shares of<br>Common<br>Stock)                                      |           |            |                        |            |            |            |                 |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0197 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 2,500,000  | <u>(8)</u> | 08/18/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0197 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 3,000,000  | <u>(8)</u> | 08/18/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0197 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 2,500,000  | <u>(8)</u> | 08/18/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.0197 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 500,000    | <u>(8)</u> | 08/18/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.025  | 07/15/2016 | <u>G<sup>(1)</sup></u> | 10,000,000 | <u>(9)</u> | 06/30/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options                                                     | \$ 0.025  | 07/15/2016 | <u>G<sup>(1)</sup></u> | 8,000,000  | <u>(9)</u> | 06/30/2022 | Common<br>Stock |  |

|                                                                                |          |            |                        |           |           |             |            |                 |  |
|--------------------------------------------------------------------------------|----------|------------|------------------------|-----------|-----------|-------------|------------|-----------------|--|
| (to<br>purchase<br>shares of<br>Common<br>Stock)                               |          |            |                        |           |           |             |            |                 |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.025 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 2,000,000 |           | <u>(9)</u>  | 06/30/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.025 | 07/15/2016 | <u>G<sup>(1)</sup></u> |           | 5,000,000 | <u>(9)</u>  | 06/30/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.025 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 4,500,000 |           | <u>(9)</u>  | 06/30/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.025 | 07/15/2016 | <u>G<sup>(1)</sup></u> | 500,000   |           | <u>(9)</u>  | 06/30/2022 | Common<br>Stock |  |
| Common<br>Stock<br>Options<br>(to<br>purchase<br>shares of<br>Common<br>Stock) | \$ 0.05  | 07/15/2016 | <u>G<sup>(1)</sup></u> |           | 1,363,636 | <u>(10)</u> | 07/17/2019 | Common<br>Stock |  |
| Common<br>Stock                                                                | \$ 0.05  | 07/15/2016 | <u>G<sup>(1)</sup></u> | 1,000,000 |           | <u>(10)</u> | 07/17/2019 | Common<br>Stock |  |

Options  
(to  
purchase  
shares of  
Common  
Stock)

Common  
Stock  
Options  
(to  
purchase  
shares of  
Common  
Stock)

\$ 0.05

07/15/2016

G<sup>(1)</sup>

363,636

(10)

07/17/2019

Comm  
Stock

Common  
Stock  
Options  
(to  
purchase  
shares of  
Common  
Stock)

\$ 0.05

07/15/2016

G<sup>(1)</sup>

1,363,637

(10)

07/17/2019

Comm  
Stock

Common  
Stock  
Options  
(to  
purchase  
shares of  
Common  
Stock)

\$ 0.05

07/15/2016

G<sup>(1)</sup>

1,363,637

(10)

07/17/2019

Comm  
Stock

## Reporting Owners

| Reporting Owner Name / Address                                                                      | Relationships |           |                           |       |
|-----------------------------------------------------------------------------------------------------|---------------|-----------|---------------------------|-------|
|                                                                                                     | Director      | 10% Owner | Officer                   | Other |
| Margolis Jeff Eliot<br>C/O RESPIRERX PHARMACEUTICALS INC.<br>126 VALLEY ROAD<br>GLEN ROCK, NJ 07452 | X             |           | VP, Treasurer & Secretary |       |

## Signatures

/s/ Jeff E.  
Margolis

07/19/2016

          Signature of  
Reporting Person

Date

## Explanation of Responses:

- \* If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) All dispositions and acquisitions set forth on this Form 4 reflect estate planning transactions. The securities are held by trusts for the benefit of Mr. Margolis, his spouse, and their children.
- (2) These securities are held in a trust for the benefit of Mr. Margolis's spouse. Mr. Margolis's spouse is a trustee of the trust.
- These securities are held in trusts for the benefit of Mr. Margolis's children. Mr. Margolis's spouse is a trustee of these trusts. Mr.
- (3) Margolis disclaims beneficial ownership of these securities, and the filing of this report is not an admission that Mr. Margolis is the beneficial owner of these securities for purposes of Section 16 or any other purpose.
- These securities are held in trusts for the benefit of Mr. Margolis's children. Mr. Margolis is a trustee of these trusts. Mr. Margolis
- (4) disclaims beneficial ownership of these securities, and the filing of this report is not an admission that Mr. Margolis is the beneficial owner of these securities for purposes of Section 16 or any other purpose.
- (5) These securities are held in a trust for the benefit of Mr. Margolis. Mr. Margolis is a trustee of the trust.
- These Warrants were acquired by Mr. Margolis and his spouse in his capacity as President of Aurora Capital LLC, which served as
- (6) placement agent in the Company's unit offering with each unit consisting of one share of common stock and warrants to purchase two additional shares of common stock, and represent his share of the Placement Agent Warrants awarded at each closing of that transaction. The warrants are currently exercisable.
- (7) These Common Stock Options vest in four equal installments: 25 percent on March 31, 2016 (the grant date), 25 percent on June 30, 2016, 25 percent on September 30, 2016, and 25 percent on December 31, 2016.
- (8) These Common Stock Options vest in four equal installments: 25 percent on December 31, 2015, 25 percent on March 31, 2016, 25 percent on June 30, 2016, and 25 percent on September 30, 2016.
- (9) These Common Stock Options vested in three installments: 50 percent on June 30, 2015, 25 percent on September 30, 2015, and 25 percent on December 31, 2015, and are all currently vested and exercisable.
- (10) These Common Stock Options vested in three equal installments on July 17, 2014, September 30, 2014 and December 31, 2014, and are all currently vested and exercisable.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure.

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