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BlackRock Health Sciences Trust  
Form N-Q  
May 23, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

**FORM N-Q**

**QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED  
MANAGEMENT INVESTMENT COMPANY**

Investment Company Act file number: 811-21702

Name of Fund: BlackRock Health Sciences Trust (BME)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock Health Sciences Trust, 55 East 52<sup>nd</sup> Street, New York, NY 10055

Registrant's telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 12/31/2016

Date of reporting period: 03/31/2016

Item 1 Schedule of Investments

## Schedule of Investments March 31, 2016 (Unaudited)

BlackRock Health Sciences Trust (BME)  
(Percentages shown are based on Net Assets)

|   | Shares     | Value         |
|---|------------|---------------|
| <b>Common Stocks</b>  |            |               |
| <b>Biotechnology 22.5%</b>  |            |               |
| AbbVie, Inc. (a)  | 30,786     | \$ 1,758,496  |
| Acceleron Pharma, Inc. (b)  | 29,400     | 775,865       |
| Acerta Pharma BV, Series B (Acquired 02/01/16, cost \$986,402) (b)(c)   | 17,146,440 | 1,424,869     |
| Actelion Ltd.   | 6,700      | 999,906       |
| Alder Biopharmaceuticals, Inc. (a)(b)                                   | 10,100     | 247,349       |
| Alexion Pharmaceuticals, Inc. (a)(b)                                    | 18,460     | 2,570,001     |
| Alkermes PLC (b)  | 16,800     | 574,392       |
| Alnylam Pharmaceuticals, Inc. (b)                                       | 9,900      | 621,423       |
| Amgen, Inc. (a)   | 58,122     | 8,714,231     |
| Anacor Pharmaceuticals, Inc. (b)  | 34,600     | 1,849,370     |
| Aquinox Pharmaceuticals, Inc. (b)                                       | 15,900     | 140,238       |
| Avexis, Inc. (b)  | 9,026      | 245,868       |
| Axovant Sciences Ltd. (b)   | 12,100     | 138,908       |
| Baxalta, Inc. (a)   | 67,000     | 2,706,800     |
| Biogen, Inc. (a)(b)   | 17,348     | 4,516,031     |
| BioMarin Pharmaceutical, Inc. (a)(b)                                    | 13,500     | 1,113,480     |
| Celgene Corp. (a)(b)  | 107,486    | 10,758,274    |
| Corvus Pharmaceuticals, Inc. (b)  | 3,975      | 57,638        |
| Corvus Pharmaceuticals, Inc. (Acquired 03/23/16, cost \$297,937) (b)(c) | 21,266     | 292,939       |
| CytomX Therapeutics, Inc. (Acquired 10/8/15, cost \$261,307) (b)(c)     | 28,059     | 343,863       |
| Genomic Health, Inc. (b)  | 22,400     | 554,848       |
| Gilead Sciences, Inc. (a)   | 48,700     | 4,473,582     |
| Incyte Corp. (a)(b)   | 13,800     | 1,000,086     |
| Infinity Pharmaceuticals, Inc. (b)                                      | 46,400     | 244,528       |
| Inotek Pharmaceuticals Corp. (b)  | 30,196     | 223,450       |
| Ionis Pharmaceuticals, Inc. (a)(b)                                      | 46,300     | 1,875,150     |
| Medivation, Inc. (a)(b)   | 52,100     | 2,395,558     |
| Neurocrine Biosciences, Inc. (a)(b)                                     | 41,262     | 1,631,912     |
| Otonomy, Inc. (b)   | 8,400      | 125,328       |
| Prothena Corp. PLC (a)(b)   | 4,344      | 178,799       |
| PTC Therapeutics, Inc. (b)  | 30,300     | 195,132       |
| Regeneron Pharmaceuticals, Inc. (a)(b)                                  | 5,258      | 1,895,194     |
| REGENXBIO, Inc. (b)   | 35,850     | 387,180       |
| Sage Therapeutics, Inc. (b)   | 5,342      | 171,265       |
| Seattle Genetics, Inc. (a)(b)   | 14,867     | 521,683       |
| Seres Therapeutics, Inc. (b)  | 35,910     | 953,770       |
| Syndax Pharmaceuticals, Inc. (b)  | 13,956     | 185,894       |
| Syndax Pharmaceuticals, Inc. (Acquired 03/02/16, cost \$495,682) (b)(c) | 35,428     | 448,306       |
| Ultragenyx Pharmaceutical, Inc. (a)(b)                                  | 13,815     | 874,628       |
| Vertex Pharmaceuticals, Inc. (a)(b)                                     | 24,305     | 1,932,004     |
|   |            | 60,118,238    |
| <b>Electronic Equipment, Instruments &amp; Components 0.6%</b>          |            |               |
| FEI Co. (a)   | 18,800     | 1,673,388     |
| <b>Health Care Equipment &amp; Supplies 20.2%</b>                       |            |               |
| Abbott Laboratories (a)   | 121,500    | 5,082,344     |
| Baxter International, Inc. (a)  | 72,500     | 2,978,300     |
| Becton Dickinson and Co. (a)  | 16,833     | 2,555,586     |
| <b>Common Stocks</b>  |            |               |
| <b>Health Care Equipment &amp; Supplies (continued)</b>                 |            |               |
| Boston Scientific Corp. (b)   | 548,900    | \$ 10,324,809 |
| CONMED Corp.  | 12,000     | 503,280       |
| Cooper Cos., Inc. (a)   | 18,366     | 2,827,813     |
| CR Bard, Inc. (a)   | 17,500     | 3,546,725     |
| Edwards Lifesciences Corp. (a)(b)                                       | 45,098     | 3,978,095     |
| Insulet Corp. (b)   | 5,800      | 192,328       |
| Masimo Corp. (a)(b)   | 10,000     | 418,400       |
| Medtronic PLC (a)   | 171,900    | 12,892,500    |
| St. Jude Medical, Inc. (a)  | 84,800     | 4,664,000     |
| Stryker Corp. (a)   | 35,100     | 3,765,879     |

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|  |              |         |            |
|--|--------------|---------|------------|
|  |              |         | 53,730,059 |
| <b>Health Care Providers &amp; Services</b>  | <b>22.0%</b> |         |            |
| Aetna, Inc. (a)                              |              | 43,811  | 4,922,165  |
| Amedisys, Inc. (a)(b)                        |              | 38,600  | 1,865,924  |
| AmerisourceBergen Corp. (a)                  |              | 20,000  | 1,731,000  |
| Anthem, Inc. (a)                             |              | 50,300  | 6,991,197  |
| Cardinal Health, Inc. (a)                    |              | 45,330  | 3,714,794  |
| Cigna Corp. (a)                              |              | 39,100  | 5,366,084  |
| DaVita HealthCare Partners, Inc. (a)(b)      |              | 35,419  | 2,599,046  |
| Express Scripts Holding Co. (a)(b)           |              | 22,176  | 1,523,269  |
| HCA Holdings, Inc. (a)(b)                    |              | 11,394  | 889,302    |
| HealthEquity, Inc. (a)(b)                    |              | 16,900  | 416,923    |
| Humana, Inc. (a)                             |              | 29,300  | 5,360,435  |
| McKesson Corp.                               |              | 27,900  | 4,387,275  |
| Teladoc, Inc. (b)                            |              | 18,800  | 180,480    |
| UnitedHealth Group, Inc. (a)(d)              |              | 117,102 | 15,094,448 |
| Universal Health Services, Inc., Class B (a) |              | 23,600  | 2,943,392  |
| WellCare Health Plans, Inc. (a)(b)           |              | 7,100   | 658,525    |
|  |              |         | 58,644,259 |
| <b>Health Care Technology</b>                | <b>0.5%</b>  |         |            |
| Cerner Corp. (a)(b)                          |              | 24,800  | 1,313,408  |
| <b>Life Sciences Tools &amp; Services</b>    | <b>1.8%</b>  |         |            |
| Bio-Rad Laboratories, Inc., Class A (a)(b)   |              | 4,600   | 628,912    |
| Thermo Fisher Scientific, Inc. (a)           |              | 29,900  | 4,233,541  |
|  |              |         | 4,862,453  |
| <b>Pharmaceuticals</b>                       | <b>27.6%</b> |         |            |
| Allergan PLC (a)(b)                          |              | 35,325  | 9,468,160  |
| AstraZeneca PLC                              |              | 77,100  | 4,304,620  |
| Bristol-Myers Squibb Co. (a)                 |              | 126,430 | 8,076,348  |
| Chugai Pharmaceutical Co. Ltd.               |              | 23,800  | 736,452    |
| Dermira, Inc. (a)(b)                         |              | 15,400  | 318,472    |
| Eli Lilly & Co. (a)                          |              | 119,600 | 8,612,396  |
| GlaxoSmithKline PLC                          |              | 102,800 | 2,081,000  |
| GlaxoSmithKline PLC ADR (a)                  |              | 33,200  | 1,346,260  |
| Intra-Cellular Therapies, Inc. (b)           |              | 54,481  | 1,514,572  |
| Jazz Pharmaceuticals PLC (a)(b)              |              | 11,700  | 1,527,435  |
| Johnson & Johnson (a)                        |              | 55,270  | 5,980,214  |
| Mallinckrodt PLC (a)(b)                      |              | 23,143  | 1,418,203  |
| Merck & Co., Inc. (a)                        |              | 112,100 | 5,931,211  |

**Portfolio Abbreviations**

|            |                             |            |               |            |             |
|------------|-----------------------------|------------|---------------|------------|-------------|
| <b>ADR</b> | American Depositary Receipt | <b>EUR</b> | Euro          | <b>USD</b> | U.S. Dollar |
| <b>CHF</b> | Swiss Franc                 | <b>GBP</b> | British Pound |            |             |
| <b>CVR</b> | Contingent Value Rights     | <b>JPY</b> | Japanese Yen  |            |             |

MARCH 31, 2016

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## Schedule of Investments (continued)

## BlackRock Health Sciences Trust (BME)

|   | Shares     | Value          |
|---|------------|----------------|
| <b>Common Stocks</b>  |            |                |
| <b>Pharmaceuticals (continued)</b>  |            |                |
| Merck KGaA  | 15,800     | \$ 1,314,306   |
| Mylan NV (a)(b)   | 57,100     | 2,646,585      |
| Nektar Therapeutics (b)   | 105,300    | 1,447,875      |
| Pfizer, Inc. (a)  | 140,900    | 4,176,276      |
| Phibro Animal Health Corp., Class A   | 21,800     | 589,472        |
| Roche Holding AG  | 10,800     | 2,651,835      |
| Shire PLC ADR (a)   | 16,000     | 2,750,400      |
| Teva Pharmaceutical Industries Ltd. ADR (a)   | 75,300     | 4,029,303      |
| UCB SA  | 12,500     | 954,192        |
| Zoetis, Inc. (a)  | 38,100     | 1,688,973      |
|   |            | 73,564,560     |
| <b>Total Common Stocks 95.2%</b>  |            | 253,906,365    |
| <b>Preferred Stocks</b>   |            |                |
| <b>Biotechnology 0.5%</b>   |            |                |
| Afferent Pharmaceuticals, Inc., Series C (Acquired 6/30/15, cost \$466,519), 0.00% (b)(c) | 190,160    | 466,520        |
| Intellia Therapeutics, Inc. (Acquired 8/19/15, cost \$248,567), 0.00% (b)(c)              | 47,346     | 248,568        |
| Ovid Therapeutics, Inc. (Acquired 8/7/15, cost \$503,166), 0.00% (b)(c)                   | 80,765     | 503,166        |
| <b>Total Preferred Stocks 0.5%</b>  |            | 1,218,254      |
| <b>Rights 0.0%</b>  |            |                |
| <b>Biotechnology 0.0%</b>   |            |                |
| Dyax Corp. CVR (b)  | 61,727     | \$ 68,517      |
| <b>Total Long-Term Investments</b>  |            |                |
| <b>(Cost \$189,184,978) 95.7%</b>   |            | 255,193,136    |
| <b>Short-Term Securities</b>  |            |                |
| BlackRock Liquidity Funds, TempFund, Institutional Class, 0.37% (e)(f)                    | 13,168,573 | 13,168,573     |
| <b>Total Short-Term Securities</b>  |            |                |
| <b>(Cost \$13,168,573) 4.9%</b>   |            | 13,168,573     |
| <b>Total Investments Before Options Written</b>   |            |                |
| <b>(Cost \$202,353,551*) 100.6%</b>   |            | 268,361,709    |
| <b>Options Written</b>  |            |                |
| <b>(Premiums Received \$1,974,811) (0.9)%</b>   |            | (2,276,774)    |
| <b>Total Investments Net of Options Written 99.7%</b>                                     |            | 266,084,935    |
| <b>Other Assets Less Liabilities 0.3%</b>   |            | 741,995        |
| <b>Net Assets 100.0%</b>  |            | \$ 266,826,930 |

## Notes to Schedule of Investments

\* As of period end, gross unrealized appreciation and depreciation based on cost for federal income tax purposes were as follows:

|                               |                |
|-------------------------------|----------------|
| Tax cost                      | \$ 204,437,893 |
| Gross unrealized appreciation | \$ 69,249,722  |
| Gross unrealized depreciation | (5,325,906)    |

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Net unrealized appreciation

\$ 63,923,816

(a) All or a portion of security has been pledged and/or segregated as collateral in connection with outstanding exchange-traded options written.

(b) Non-income producing security.

(c) Restricted securities as to resale, excluding 144A securities. As of period end, the Trust held restricted securities with a current value of \$3,728,231 and an original cost of \$3,259,581 which was 1.4% of its net assets.

(d) All or a portion of security has been pledged as collateral in connection with outstanding OTC derivatives.

(e) Current yield as of period end.

(f) During the period ended March 31, 2016, investments in issuers considered to be affiliates of the Trust for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

|  | <b>Shares<br/>Held at<br/>December 31,<br/>2015</b> | <b>Net<br/>Activity</b> | <b>Shares<br/>Held at<br/>March 31,<br/>2016</b> | <b>Income</b>      |
|--|---|-------------------------|--|--------------------|
| <b>Affiliates</b>  |   |                         |  |                    |
| BlackRock Liquidity Funds, TempFund, Institutional Class | 8,854,560   | 4,314,013               | 13,168,573                                       | \$ 13,984          |
| BlackRock Liquidity Series, LLC Money Market Series      |   |                         |  | \$ 69 <sup>1</sup> |
| <b>Total</b>   |   |                         |  | <b>\$ 14,053</b>   |

<sup>1</sup> Represents securities lending income earned from the reinvestment of cash collateral from loaned securities, net of fees, and collateral investment expenses, and other payments to and from borrowers of securities.

## Schedule of Investments (continued)

BlackRock Health Sciences Trust (BME)

For Trust compliance purposes, the Trust's industry classifications refer to any one or more of the industry sub-classifications used by one or more widely recognized market indexes or ratings group indexes, and/or as defined by the investment advisor. These definitions may not apply for purposes of this report, which may combine industry sub-classifications for reporting ease.

## Derivative Financial Instruments Outstanding as of Period End

## Exchange-Traded Options Written

| Description                             | Put/<br>Call | Expiration<br>Date | Strike |        | Contracts | Value     |
|---|--------------|--------------------|--------|--------|-----------|-----------|
|   |              |                    | Price  |        |           |           |
| AbbVie, Inc.                            | Call         | 4/01/16            | USD    | 58.50  | 13        | \$ (65)   |
| Aetna, Inc.                             | Call         | 4/01/16            | USD    | 109.00 | 16        | (6,080)   |
| Aetna, Inc.                             | Call         | 4/01/16            | USD    | 110.00 | 16        | (4,328)   |
| Aetna, Inc.                             | Call         | 4/01/16            | USD    | 112.00 | 12        | (1,121)   |
| Alexion Pharmaceuticals, Inc.           | Call         | 4/01/16            | USD    | 152.50 | 63        | (630)     |
| Anthem, Inc.                            | Call         | 4/01/16            | USD    | 125.00 | 88        | (120,780) |
| Baxter International, Inc.              | Call         | 4/01/16            | USD    | 40.00  | 22        | (2,485)   |
| Bristol-Myers Squibb Co.                | Call         | 4/01/16            | USD    | 65.00  | 72        | (288)     |
| Eli Lilly & Co.                         | Call         | 4/01/16            | USD    | 77.00  | 195       | (390)     |
| Johnson & Johnson                       | Call         | 4/01/16            | USD    | 107.00 | 53        | (6,492)   |
| Medtronic PLC                           | Call         | 4/01/16            | USD    | 75.00  | 274       | (7,946)   |
| Merck & Co., Inc.                       | Call         | 4/01/16            | USD    | 52.00  | 310       | (29,605)  |
| Mylan NV                                | Call         | 4/01/16            | USD    | 48.50  | 100       | (200)     |
| Pfizer, Inc.                            | Call         | 4/01/16            | USD    | 30.50  | 24        | (24)      |
| UnitedHealth Group, Inc.                | Call         | 4/01/16            | USD    | 122.00 | 37        | (25,530)  |
| Abbott Laboratories                     | Call         | 4/04/16            | USD    | 39.50  | 100       | (23,327)  |
| Becton Dickinson and Co.                | Call         | 4/06/16            | USD    | 150.01 | 60        | (14,075)  |
| AbbVie, Inc.                            | Call         | 4/08/16            | USD    | 59.00  | 13        | (195)     |
| Aetna, Inc.                             | Call         | 4/08/16            | USD    | 110.00 | 62        | (21,080)  |
| Baxter International, Inc.              | Call         | 4/08/16            | USD    | 40.00  | 80        | (11,080)  |
| Baxter International, Inc.              | Call         | 4/08/16            | USD    | 40.50  | 23        | (1,874)   |
| Biogen, Inc.                            | Call         | 4/08/16            | USD    | 275.00 | 68        | (6,460)   |
| Bristol-Myers Squibb Co.                | Call         | 4/08/16            | USD    | 65.00  | 100       | (2,700)   |
| Celgene Corp.                           | Call         | 4/08/16            | USD    | 107.00 | 15        | (165)     |
| Mallinckrodt PLC                        | Call         | 4/08/16            | USD    | 67.00  | 40        | (1,600)   |
| Medtronic PLC                           | Call         | 4/08/16            | USD    | 77.50  | 48        | (192)     |
| Pfizer, Inc.                            | Call         | 4/08/16            | USD    | 31.50  | 51        | (102)     |
| Teva Pharmaceutical Industries Ltd. ADR | Call         | 4/08/16            | USD    | 59.50  | 19        | (76)      |
| UnitedHealth Group, Inc.                | Call         | 4/08/16            | USD    | 122.00 | 185       | (134,588) |
| UnitedHealth Group, Inc.                | Call         | 4/08/16            | USD    | 124.00 | 12        | (6,510)   |
| Zoetis, Inc.                            | Call         | 4/08/16            | USD    | 44.50  | 60        | (3,300)   |
| Cardinal Health, Inc.                   | Call         | 4/12/16            | USD    | 84.00  | 76        | (1,802)   |
| Cerner Corp.                            | Call         | 4/13/16            | USD    | 54.00  | 42        | (1,859)   |
| Abbott Laboratories                     | Call         | 4/15/16            | USD    | 42.00  | 150       | (5,774)   |
| Aetna, Inc.                             | Call         | 4/15/16            | USD    | 115.00 | 15        | (1,778)   |
| Alder Biopharmaceuticals, Inc.          | Call         | 4/15/16            | USD    | 25.00  | 47        | (6,580)   |
| Amedisys, Inc.                          | Call         | 4/15/16            | USD    | 46.00  | 136       | (39,916)  |
| Amgen, Inc.                             | Call         | 4/15/16            | USD    | 155.00 | 24        | (1,788)   |
| Anthem, Inc.                            | Call         | 4/15/16            | USD    | 140.00 | 7         | (1,568)   |
| Becton Dickinson and Co.                | Call         | 4/15/16            | USD    | 150.00 | 11        | (3,272)   |
| BioMarin Pharmaceutical, Inc.           | Call         | 4/15/16            | USD    | 85.00  | 27        | (6,412)   |
| Bristol-Myers Squibb Co.                | Call         | 4/15/16            | USD    | 62.50  | 77        | (14,014)  |
| Cigna Corp.                             | Call         | 4/15/16            | USD    | 140.00 | 62        | (11,594)  |
| Cooper Cos., Inc.                       | Call         | 4/15/16            | USD    | 150.00 | 33        | (20,130)  |
| CR Bard, Inc.                           | Call         | 4/15/16            | USD    | 190.00 | 50        | (63,750)  |
| DaVita HealthCare Partners, Inc.        | Call         | 4/15/16            | USD    | 65.00  | 35        | (29,750)  |
| DaVita HealthCare Partners, Inc.        | Call         | 4/15/16            | USD    | 72.50  | 35        | (5,250)   |
| Edwards Lifesciences Corp.              | Call         | 4/15/16            | USD    | 90.00  | 80        | (19,600)  |
| Gilead Sciences, Inc.                   | Call         | 4/15/16            | USD    | 92.50  | 32        | (4,352)   |

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|                          |      |         |     |        |     |          |
|--------------------------|------|---------|-----|--------|-----|----------|
| HealthEquity, Inc.       | Call | 4/15/16 | USD | 25.00  | 59  | (4,868)  |
| Humana, Inc.             | Call | 4/15/16 | USD | 180.00 | 92  | (59,800) |
| Incyte Corp.             | Call | 4/15/16 | USD | 70.00  | 50  | (25,250) |
| Jazz Pharmaceuticals PLC | Call | 4/15/16 | USD | 125.00 | 20  | (16,200) |
| Masimo Corp.             | Call | 4/15/16 | USD | 40.00  | 35  | (6,038)  |
| Medivation, Inc.         | Call | 4/15/16 | USD | 41.00  | 100 | (58,750) |
| Medtronic PLC            | Call | 4/15/16 | USD | 77.50  | 130 | (1,495)  |
| Merck & Co., Inc.        | Call | 4/15/16 | USD | 52.50  | 27  | (2,390)  |

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## Schedule of Investments (continued)

## BlackRock Health Sciences Trust (BME)

| Description                              | Put/<br>Call | Expiration<br>Date | Strike |        | Contracts | Value      |
|--|--------------|--------------------|--------|--------|-----------|------------|
|  |              |                    | Price  |        |           |            |
| Neurocrine Biosciences, Inc.             | Call         | 4/15/16            | USD    | 44.00  | 145       | \$ (3,625) |
| Pfizer, Inc.                             | Call         | 4/15/16            | USD    | 31.00  | 97        | (437)      |
| Regeneron Pharmaceuticals, Inc.          | Call         | 4/15/16            | USD    | 400.00 | 10        | (1,350)    |
| Seattle Genetics, Inc.                   | Call         | 4/15/16            | USD    | 35.00  | 50        | (9,000)    |
| Stryker Corp.                            | Call         | 4/15/16            | USD    | 105.00 | 23        | (7,245)    |
| Teva Pharmaceutical Industries Ltd. ADR  | Call         | 4/15/16            | USD    | 60.00  | 63        | (315)      |
| Thermo Fisher Scientific, Inc.           | Call         | 4/15/16            | USD    | 140.00 | 52        | (15,600)   |
| Ultragenyx Pharmaceutical, Inc.          | Call         | 4/15/16            | USD    | 75.00  | 50        | (2,500)    |
| UnitedHealth Group, Inc.                 | Call         | 4/15/16            | USD    | 125.00 | 24        | (11,460)   |
| Universal Health Services, Inc., Class B | Call         | 4/15/16            | USD    | 115.00 | 41        | (43,050)   |
| Aetna, Inc.                              | Call         | 4/22/16            | USD    | 111.00 | 16        | (5,600)    |
| Allergan PLC                             | Call         | 4/22/16            | USD    | 290.00 | 76        | (28,120)   |
| Bristol-Myers Squibb Co.                 | Call         | 4/22/16            | USD    | 62.50  | 77        | (16,401)   |
| Bristol-Myers Squibb Co.                 | Call         | 4/22/16            | USD    | 63.50  | 43        | (6,170)    |
| Express Scripts Holding Co.              | Call         | 4/22/16            | USD    | 70.00  | 39        | (4,290)    |
| Mallinckrodt PLC                         | Call         | 4/22/16            | USD    | 67.00  | 40        | (5,500)    |
| Medtronic PLC                            | Call         | 4/22/16            | USD    | 77.00  | 57        | (2,052)    |
| Merck & Co., Inc.                        | Call         | 4/22/16            | USD    | 53.50  | 55        | (2,695)    |
| Pfizer, Inc.                             | Call         | 4/22/16            | USD    | 31.00  | 70        | (525)      |
| UnitedHealth Group, Inc.                 | Call         | 4/22/16            | USD    | 123.00 | 25        | (18,688)   |
| Vertex Pharmaceuticals, Inc.             | Call         | 4/22/16            | USD    | 89.00  | 43        | (4,838)    |
| FEI Co.                                  | Call         | 4/27/16            | USD    | 87.01  | 65        | (25,619)   |
| AbbVie, Inc.                             | Call         | 4/29/16            | USD    | 57.50  | 41        | (5,637)    |
| Allergan PLC                             | Call         | 4/29/16            | USD    | 285.00 | 38        | (14,820)   |
| Amgen, Inc.                              | Call         | 4/29/16            | USD    | 150.00 | 89        | (38,715)   |
| Baxter International, Inc.               | Call         | 4/29/16            | USD    | 40.50  | 15        | (2,108)    |
| Baxter International, Inc.               | Call         | 4/29/16            | USD    | 41.50  | 60        | (4,860)    |
| Celgene Corp.                            | Call         | 4/29/16            | USD    | 105.00 | 267       | (43,254)   |
| Eli Lilly & Co.                          | Call         | 4/29/16            | USD    | 73.00  | 75        | (11,475)   |
| Gilead Sciences, Inc.                    | Call         | 4/29/16            | USD    | 94.00  | 69        | (12,730)   |
| HCA Holdings, Inc.                       | Call         | 4/29/16            | USD    | 74.50  | 39        | (19,305)   |
| Humana, Inc.                             | Call         | 4/29/16            | USD    | 187.50 | 10        | (3,950)    |
| Ionis Pharmaceuticals, Inc.              | Call         | 4/29/16            | USD    | 42.00  | 160       | (44,000)   |
| Jazz Pharmaceuticals PLC                 | Call         | 4/29/16            | USD    | 125.00 | 20        | (19,300)   |
| Johnson & Johnson                        | Call         | 4/29/16            | USD    | 108.00 | 109       | (21,037)   |
| Medtronic PLC                            | Call         | 4/29/16            | USD    | 77.50  | 58        | (2,117)    |
| Mylan NV                                 | Call         | 4/29/16            | USD    | 48.50  | 100       | (10,000)   |
| UnitedHealth Group, Inc.                 | Call         | 4/29/16            | USD    | 131.00 | 126       | (30,681)   |
| Vertex Pharmaceuticals, Inc.             | Call         | 4/29/16            | USD    | 89.00  | 43        | (7,848)    |
| Zoetis, Inc.                             | Call         | 4/29/16            | USD    | 44.00  | 73        | (10,403)   |
| AbbVie, Inc.                             | Call         | 5/06/16            | USD    | 58.00  | 41        | (5,330)    |
| Aetna, Inc.                              | Call         | 5/06/16            | USD    | 113.00 | 16        | (5,640)    |
| Amgen, Inc.                              | Call         | 5/06/16            | USD    | 150.00 | 3         | (1,432)    |
| Medtronic PLC                            | Call         | 5/06/16            | USD    | 75.00  | 33        | (5,115)    |
| Pfizer, Inc.                             | Call         | 5/06/16            | USD    | 30.50  | 21        | (651)      |
| Stryker Corp.                            | Call         | 5/06/16            | USD    | 105.20 | 50        | (26,150)   |
| Cardinal Health, Inc.                    | Call         | 5/12/16            | USD    | 81.10  | 82        | (22,318)   |
| Abbott Laboratories                      | Call         | 5/20/16            | USD    | 41.00  | 176       | (26,840)   |
| AmerisourceBergen Corp.                  | Call         | 5/20/16            | USD    | 90.00  | 71        | (8,875)    |
| Amgen, Inc.                              | Call         | 5/20/16            | USD    | 150.00 | 89        | (47,170)   |
| Anthem, Inc.                             | Call         | 5/20/16            | USD    | 145.00 | 81        | (23,328)   |
| Baxalta, Inc.                            | Call         | 5/20/16            | USD    | 40.00  | 150       | (25,875)   |
| BioMarin Pharmaceutical, Inc.            | Call         | 5/20/16            | USD    | 90.00  | 27        | (10,935)   |
| Bio-Rad Laboratories, Inc., Class A      | Call         | 5/20/16            | USD    | 140.00 | 16        | (5,680)    |
| Celgene Corp.                            | Call         | 5/20/16            | USD    | 105.00 | 95        | (25,080)   |
| Cooper Cos., Inc.                        | Call         | 5/20/16            | USD    | 150.00 | 33        | (26,235)   |
| DaVita HealthCare Partners, Inc.         | Call         | 5/20/16            | USD    | 75.00  | 50        | (6,625)    |
| Dermira, Inc.                            | Call         | 5/20/16            | USD    | 25.00  | 54        | (9,585)    |
| Edwards Lifesciences Corp.               | Call         | 5/20/16            | USD    | 87.50  | 80        | (44,800)   |
| Express Scripts Holding Co.              | Call         | 5/20/16            | USD    | 72.50  | 39        | (4,778)    |

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|                           |      |         |     |       |     |          |
|---------------------------|------|---------|-----|-------|-----|----------|
| Gilead Sciences, Inc.     | Call | 5/20/16 | USD | 92.50 | 70  | (22,750) |
| GlaxoSmithKline PLC - ADR | Call | 5/20/16 | USD | 41.00 | 116 | (9,280)  |
| Medivation, Inc.          | Call | 5/20/16 | USD | 40.00 | 86  | (75,680) |
| Pfizer, Inc.              | Call | 5/20/16 | USD | 31.00 | 191 | (4,489)  |
| Prothena Corp. PLC        | Call | 5/20/16 | USD | 55.00 | 15  | (1,650)  |

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## Schedule of Investments (continued)

## BlackRock Health Sciences Trust (BME)

| Description                             | Put/<br>Call | Expiration<br>Date | Strike |        | Contracts | Value          |
|---|--------------|--------------------|--------|--------|-----------|----------------|
|   |              |                    | Price  |        |           |                |
| Regeneron Pharmaceuticals, Inc.         | Call         | 5/20/16            | USD    | 400.00 | 10        | \$ (7,700)     |
| Shire PLC ADR                           | Call         | 5/20/16            | USD    | 175.00 | 28        | (26,040)       |
| St. Jude Medical, Inc.                  | Call         | 5/20/16            | USD    | 55.00  | 296       | (61,420)       |
| Stryker Corp.                           | Call         | 5/20/16            | USD    | 105.20 | 50        | (29,781)       |
| Teva Pharmaceutical Industries Ltd. ADR | Call         | 5/20/16            | USD    | 57.50  | 45        | (3,308)        |
| Thermo Fisher Scientific, Inc.          | Call         | 6/17/16            | USD    | 140.00 | 52        | (31,980)       |
| WellCare Health Plans, Inc.             | Call         | 6/17/16            | USD    | 95.00  | 24        | (12,000)       |
| <b>Total</b>                            |              |                    |        |        |           | \$ (1,983,108) |

## OTC Options Written

| Description                              | Put/<br>Call | Counterparty                       | Expiration<br>Date | Strike |          | Contracts | Value        |
|--|--------------|------------------------------------|--------------------|--------|----------|-----------|--------------|
|  |              |                                    |                    | Price  |          |           |              |
| AstraZeneca PLC                          | Call         | Credit Suisse International        | 4/05/16            | GBP    | 44.47    | 10,000    | \$           |
| UCB SA                                   |              | Morgan Stanley & Co. International |                    |        |          |           |              |
|  | Call         | PLC                                | 4/05/16            | EUR    | 75.07    | 4,300     | (4)          |
| Cigna Corp.                              | Call         | Citibank N.A.                      | 4/06/16            | USD    | 143.37   | 7,400     | (729)        |
| Allergan PLC                             | Call         | Bank of America N.A.               | 4/12/16            | USD    | 288.86   | 500       | (332)        |
| AstraZeneca PLC                          | Call         | Credit Suisse International        | 4/12/16            | GBP    | 40.94    | 5,000     | (307)        |
| GlaxoSmithKline PLC                      | Call         | UBS AG                             | 4/14/16            | GBP    | 14.17    | 710       | (168)        |
| Actelion Ltd.                            |              | Morgan Stanley & Co. International |                    |        |          |           |              |
|  | Call         | PLC                                | 4/19/16            | CHF    | 141.80   | 2,400     | (13,900)     |
| Chugai Pharmaceutical Co. Ltd.           | Call         | UBS AG                             | 4/20/16            | JPY    | 3,435.37 | 8,300     | (9,502)      |
| Boston Scientific Corp.                  | Call         | Deutsche Bank AG                   | 4/21/16            | USD    | 17.85    | 73,500    | (80,415)     |
| Boston Scientific Corp.                  |              | Morgan Stanley & Co. International |                    |        |          |           |              |
|  | Call         | PLC                                | 4/25/16            | USD    | 18.35    | 58,600    | (45,576)     |
| AstraZeneca PLC                          | Call         | Credit Suisse International        | 4/26/16            | GBP    | 42.67    | 5,500     | (244)        |
| Baxalta, Inc.                            | Call         | Goldman Sachs International        | 4/27/16            | USD    | 40.57    | 8,400     | (8,713)      |
| Universal Health Services, Inc., Class B |              | Morgan Stanley & Co. International |                    |        |          |           |              |
|  | Call         | PLC                                | 4/29/16            | USD    | 119.67   | 4,200     | (33,755)     |
| Roche Holding AG                         | Call         | UBS AG                             | 5/03/16            | CHF    | 258.25   | 4,000     | (1,228)      |
| Teva Pharmaceutical Industries Ltd. ADR  | Call         | Barclays Bank PLC                  | 5/03/16            | USD    | 58.27    | 9,000     | (3,709)      |
| Boston Scientific Corp.                  | Call         | Goldman Sachs International        | 5/04/16            | USD    | 18.02    | 60,000    | (63,178)     |
| GlaxoSmithKline PLC                      | Call         | Goldman Sachs International        | 5/04/16            | GBP    | 14.19    | 17,500    | (7,045)      |
| Baxter International, Inc.               |              | Morgan Stanley & Co. International |                    |        |          |           |              |
|  | Call         | PLC                                | 5/09/16            | USD    | 41.18    | 11,300    | (11,485)     |
| Johnson & Johnson                        | Call         | Citibank N.A.                      | 5/09/16            | USD    | 109.19   | 3,100     | (4,863)      |
| AstraZeneca PLC                          | Call         | Credit Suisse International        | 5/10/16            | GBP    | 41.35    | 5,000     | (2,025)      |
| GlaxoSmithKline PLC                      | Call         | Goldman Sachs International        | 5/18/16            | GBP    | 14.19    | 17,500    | (6,488)      |
| <b>Total</b>                             |              |                                    |                    |        |          |           | \$ (293,666) |

## Fair Value Hierarchy as of Period End

Various inputs are used in determining the fair value of investments and derivative financial instruments. These inputs to valuation techniques are categorized into a fair value hierarchy consisting of three broad levels for financial reporting purposes as follows:

Level 1 unadjusted price quotations in active markets/exchanges for identical assets or liabilities that the Trust has the ability to access

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Level 2 other observable inputs (including, but not limited to, quoted prices for similar assets or liabilities in markets that are active, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the assets or liabilities (such as interest rates, yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates) or other market-corroborated inputs)

Level 3 unobservable inputs based on the best information available in the circumstances, to the extent observable inputs are not available (including the Trust's own assumptions used in determining the fair value of investments and derivative financial instruments)

The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). Accordingly, the degree of judgment exercised in determining fair value is greatest for instruments categorized in Level 3. The inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for disclosure purposes, the fair value hierarchy classification is determined based on the lowest level input that is significant to the fair value measurement in its entirety. The significant unobservable inputs used by the Global Valuation Committee in determining the price for Fair Valued Investments are typically categorized as Level 3.

Changes in valuation techniques may result in transfers into or out of an assigned level within the hierarchy. In accordance with the Trust's policy, transfers between different levels of the fair value hierarchy are deemed to have occurred as of the beginning of the reporting period. The categorization of a value determined for investments and derivative financial instruments is based on the pricing transparency of the investments and derivative financial instruments and is not necessarily an indication of the risks associated with investing in those securities. For information about the Trust's policy regarding valuation of investments and derivative financial instruments, refer to the Trust's most recent financial statements as contained in its annual report.

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## Schedule of Investments (continued)

BlackRock Health Sciences Trust (BME)

The following tables summarize the Trust's investments and derivative financial instruments categorized in the disclosure hierarchy:

|  | Level 1               | Level 2              | Level 3             | Total                 |
|--|-----------------------|----------------------|---------------------|-----------------------|
| <b>Assets:</b>                                 |                       |                      |                     |                       |
| Investments:                                   |                       |                      |                     |                       |
| Long-Term Investments:                         |                       |                      |                     |                       |
| Common Stocks:                                 |                       |                      |                     |                       |
| Biotechnology                                  | \$ 56,608,355         | \$ 2,085,014         | \$ 1,424,869        | \$ 60,118,238         |
| Electronic Equipment, Instruments & Components | 1,673,388             |                      |                     | 1,673,388             |
| Health Care Equipment & Supplies               | 53,730,059            |                      |                     | 53,730,059            |
| Health Care Providers & Services               | 58,644,259            |                      |                     | 58,644,259            |
| Health Care Technology                         | 1,313,408             |                      |                     | 1,313,408             |
| Life Sciences Tools & Services                 | 4,862,453             |                      |                     | 4,862,453             |
| Pharmaceuticals                                | 61,522,155            | 12,042,405           |                     | 73,564,560            |
| Preferred Stocks <sup>1</sup>                  |                       |                      | 1,218,254           | 1,218,254             |
| Rights <sup>1</sup>                            |                       |                      | 68,517              | 68,517                |
| Short-Term Securities                          | 13,168,573            |                      |                     | 13,168,573            |
| <b>Total</b>                                   | <b>\$ 251,522,650</b> | <b>\$ 14,127,419</b> | <b>\$ 2,711,640</b> | <b>\$ 268,361,709</b> |

<sup>1</sup> See above Schedule of Investments for values in each industry.

|   | Level 1        | Level 2      | Level 3 | Total          |
|---|----------------|--------------|---------|----------------|
| Derivative Financial Instruments <sup>2</sup> |                |              |         |                |
| <b>Liabilities:</b>                           |                |              |         |                |
| Equity contracts                              | \$ (1,838,177) | \$ (438,597) |         | \$ (2,276,774) |

<sup>2</sup> Derivative financial instruments are options written, which are shown at value.

The Trust may hold assets and/or liabilities in which the fair value approximates the carrying amount for financial reporting purposes. As of period end, such assets and/or liabilities are categorized within the disclosure hierarchy as follows:

|                           | Level 1           | Level 2             | Level 3 | Total            |
|---------------------------|-------------------|---------------------|---------|------------------|
| <b>Assets:</b>            |                   |                     |         |                  |
| Foreign currency at value | \$ 167,145        |                     |         | \$ 167,145       |
| <b>Liabilities:</b>       |                   |                     |         |                  |
| Bank overdraft            |                   | \$ (143,443)        |         | (143,443)        |
| <b>Total</b>              | <b>\$ 167,145</b> | <b>\$ (143,443)</b> |         | <b>\$ 23,702</b> |

During the period ended March 31, 2016, there were no transfers between levels.

A reconciliation of Level 3 investments is presented when the Trust had a significant amount of Level 3 investments at the beginning and/or end of the period in relation to net assets. The following table is a reconciliation of Level 3 investments for which significant unobservable inputs were used in determining fair value:

|  | Common Stocks | Preferred Stocks | Rights    | Total        |
|--|---------------|------------------|-----------|--------------|
| <b>Assets:</b>                           |               |                  |           |              |
| Opening Balance, as of December 31, 2015 |               | \$ 5,907,930     |           | \$ 5,907,930 |
| Transfers into Level 3                   | \$ 986,402    |                  | \$ 25,848 | 1,012,250    |
| Transfers out of Level 3                 |               | (2,546,851)      |           | (2,546,851)  |

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|  |                     |                     |                  |                     |
|--|---------------------|---------------------|------------------|---------------------|
| Accrued discounts/premiums   |                     |                     |                  |                     |
| Net realized gain  |                     | 1,287,939           |                  | 1,287,939           |
| Net change in unrealized appreciation/depreciation   | 438,467             | (937,224)           | 42,669           | (456,088)           |
| Purchases  |                     |                     |                  |                     |
| Sales  |                     | (2,493,540)         |                  | (2,493,540)         |
| <b>Closing Balance, as of March 31, 2016</b>   | <b>\$ 1,424,869</b> | <b>\$ 1,218,254</b> | <b>\$ 68,517</b> | <b>\$ 2,711,640</b> |
| Net change in unrealized appreciation/depreciation on investments still held at March 31, 2016 | \$ 438,467          | \$ (937,224)        | \$ 42,669        | \$ (456,088)        |

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## Schedule of Investments (continued)

BlackRock Health Sciences Trust (BME)

The following table summarizes the valuation techniques used and unobservable inputs utilized by the BlackRock Global Valuation Methodologies Committee (the Global Valuation Committee) to determine the value of certain of the Trust's Level 3 investments as of period end.

|                  | Value               | Valuation Techniques | Unobservable Inputs                                     | Range of Unobservable Inputs Utilized |
|------------------|---------------------|----------------------|---|---------------------------------------|
| <b>Assets:</b>   |                     |                      |   |                                       |
| Common Stocks    | \$ 1,424,869        | Discounted Cash Flow | Discount Rate <sup>1</sup><br>Time to Exit <sup>1</sup> | 1.74%<br>1-3 years                    |
| Preferred Stocks | 1,218,254           | Cost <sup>2</sup>    | N/A   |                                       |
| Rights           | 68,517              | Acquisition Terms    | Intrinsic Value <sup>3</sup>                            |                                       |
| <b>Total</b>     | <b>\$ 2,711,640</b> |                      |   |                                       |

<sup>1</sup> Decrease in unobservable input may result in a significant increase to value, while an increase in the unobservable input may result in a significant decrease to value.

<sup>2</sup> The Trust fair values certain of its Level 3 investments using acquisition cost, although the transaction may not have occurred during the current reporting period. These investments are generally privately held investments. There may not be a secondary market, and/or there are a limited number of investors. The determination to fair value such investments at cost is based upon factors consistent with the principles of fair value measurement that are reasonably available to the Global Valuation Committee, or its delegate. Valuations are reviewed utilizing available market information to determine if the carrying value should be adjusted. Such market data may include, but is not limited to, observations of the trading multiples of public companies considered comparable to the private companies being valued, financial or operational information released by the company, and/or news or corporate events that affect the investment. Valuations may be adjusted to account for company-specific issues, the lack of liquidity inherent in a nonpublic investment and the fact that comparable public companies are not identical to the investments being fair valued by the Trust.

<sup>3</sup> Increase in unobservable input may result in a significant increase to value, while a decrease in the unobservable input may result in a significant decrease to value.

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Item 2 Controls and Procedures

- 2(a) The registrant's principal executive and principal financial officers, or persons performing similar functions, have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the "1940 Act")) are effective as of a date within 90 days of the filing of this report based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended.
- 2(b) There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3 Exhibits

Certifications Attached hereto



Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BlackRock Health Sciences Trust

By: /s/ John M. Perlowski  
John M. Perlowski  
Chief Executive Officer (principal executive officer) of  
BlackRock Health Sciences Trust

Date: May 23, 2016

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By: /s/ John M. Perlowski  
John M. Perlowski  
Chief Executive Officer (principal executive officer) of  
BlackRock Health Sciences Trust

Date: May 23, 2016

By: /s/ Neal J. Andrews  
Neal J. Andrews  
Chief Financial Officer (principal financial officer) of  
BlackRock Health Sciences Trust

Date: May 23, 2016