

BlackRock Health Sciences Trust  
Form N-Q  
September 26, 2008

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: Donald C. Burke, Chief Executive Officer, BlackRock Health Sciences Trust, 800 Scudders Mill Road, Plainsboro, NJ, 08536. Mailing address: P.O. Box 9011, Princeton, NJ, 08543-9011

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

Date of fiscal year end: 10/31/2008

Date of reporting period: 05/01/2008  07/31/2008

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Item 1 □ Schedule of Investments

**Schedule of Investments July 31, 2008 (Unaudited)**

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

| Shares                           | Common Stocks                                | Value         |
|----------------------------------|--|---------------|
| <b>Biotechnology 27.1%</b>       |  |               |
| 127,400                          | Alexion Pharmaceuticals, Inc.(a)             | \$ 11,943,750 |
| 177,900                          | Amgen, Inc.                                  | 11,141,877    |
| 20,300                           | ARYx Therapeutics, Inc.                      | 104,748       |
| 119,300                          | Celera Corp.                                 | 1,628,445     |
| 89,071                           | Celgene Corp.(b)                             | 6,723,970     |
| 74,600                           | Charles River Laboratories Intl., Inc.(b)(c) | 4,957,916     |
| 78,800                           | Genentech, Inc.(b)                           | 7,505,700     |
| 100,300                          | Genzyme Corp.(b)                             | 7,687,995     |
| 38,500                           | Halozyme Therapeutics, Inc.(b)               | 308,385       |
| 29,700                           | Incyte Corp. Ltd.(b)                         | 267,300       |
| 97,400                           | Integra LifeSciences Holdings Corp.(b)(c)    | 4,447,284     |
| 467                              | InterMune, Inc.                              | 8,023         |
| 35,600                           | Millipore Corp.(b)                           | 2,504,460     |
| 13,200                           | Nanosphere, Inc.(b)                          | 130,548       |
| 22,300                           | Sequenom, Inc.(b)                            | 476,328       |
| 63,300                           | Vertex Pharmaceuticals, Inc.(b)              | 2,183,850     |
|                                  |  | <hr/>         |
|                                  |  | 62,020,579    |
| <b>Commercial Services 0.6%</b>  |  |               |
| 23,600                           | McKesson Corp.                               | 1,321,364     |
| <b>Healthcare Products 31.1%</b> |  |               |
| 50,100                           | Alcon, Inc.                                  | 8,638,743     |
| 70,900                           | Alphatec Holdings, Inc.(b)                   | 338,902       |
| 176,800                          | Baxter Intl., Inc.(a)                        | 12,130,248    |
| 15,300                           | Beckman Coulter, Inc.                        | 1,106,802     |
| 137,500                          | Becton Dickinson & Co.(a)                    | 11,675,125    |
| 29,900                           | C.R. Bard, Inc.                              | 2,775,916     |
| 33,700                           | Covidien Ltd.                                | 1,659,388     |
| 131,100                          | Cyberonics, Inc.(b)                          | 3,620,982     |
| 6,400                            | Hologic, Inc.(b)                             | 118,208       |
| 76,800                           | Immunocor, Inc.(b)                           | 2,313,984     |
| 101,800                          | Johnson & Johnson                            | 6,970,246     |
| 179,500                          | Medtronic, Inc.(a)                           | 9,482,985     |
| 45,600                           | SenoRx, Inc.(b)                              | 329,232       |
| 51,100                           | St. Jude Medical, Inc.(b)                    | 2,380,238     |
| 31,900                           | Stryker Corp.                                | 2,047,661     |
| 64,200                           | Varian Medical Systems, Inc.(b)(c)           | 3,852,000     |
| 24,400                           | Zimmer Holdings, Inc.(b)                     | 1,681,404     |
|                                  |  | <hr/>         |
|                                  |  | 71,122,064    |
| <b>Healthcare Services 3.5%</b>  |  |               |
| 68,300                           | Aetna, Inc.(a)                               | 2,800,983     |
| 44,500                           | DaVita, Inc.(b)                              | 2,485,325     |
| 48,200                           | Fresenius Medical Care AG & Co. KGaA         | 2,655,153     |
|                                  |  | <hr/>         |
|                                  |  | 7,941,461     |
| <b>Pharmaceuticals 21.7%</b>     |  |               |
| 52,400                           | Abbott Laboratories(a)                       | 2,952,216     |
| 113,200                          | Auxilium Pharmaceuticals, Inc.(b)(c)         | 4,199,720     |
| 12,800                           | BioForm Medical, Inc.(b)                     | 64,768        |

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|         |   |            |
|---------|---|------------|
| 98,438  | BioMarin Pharmaceuticals, Inc.(b)         | 3,204,157  |
| 100,900 | Bristol-Myers Squibb Co.                  | 2,131,008  |
| 59,000  | Eli Lilly & Co.                           | 2,779,490  |
| 120,900 | Gilead Sciences, Inc.(b)                  | 6,526,182  |
| 83,800  | Medco Health Solutions, Inc.(a)(b)        | 4,154,804  |
| 132,100 | Merck & Co., Inc.(a)                      | 4,346,090  |
| 78,000  | Novartis AG (ADR)                         | 4,629,300  |
| 174,500 | Pfizer, Inc.                              | 3,257,915  |
| 66,500  | Poniard Pharmaceuticals, Inc.(b)(c)       | 256,025    |
| 49,100  | Rigel Pharmaceuticals, Inc.(b)            | 1,249,104  |
| 23,950  | Roche Holding AG                          | 4,425,046  |
| 55,100  | Teva Pharmaceutical Industries Ltd. (ADR) | 2,470,684  |
| 17,900  | United Therapeutics Corp. (b)             | 2,029,681  |
| 21,122  | Wyeth                                     | 855,863    |
|         |   | 49,532,053 |

|         |                        |           |
|---------|------------------------|-----------|
|         | <b>Technology 2.3%</b> |           |
| 146,400 | CVS Caremark Corp.     | 5,343,600 |

|        |                      |         |
|--------|----------------------|---------|
|        | <b>Software 0.2%</b> |         |
| 22,200 | MedAssets, Inc.(b)   | 335,664 |

|  |   |             |
|--|---|-------------|
|  | <b>Total Common Stocks<br/>(Cost \$167,376,700) 86.5%</b> | 197,616,785 |
|--|---|-------------|

| Shares     | Short-Term Securities   | Value         |
|------------|---|---------------|
|            | <b>Money Market Funds 9.2%</b>                                      |               |
| 10,130,850 | BlackRock Liquidity Series, LLC Money Market Series, 2.63%(d)(e)(f) | \$ 10,130,850 |
| 10,964,899 | Fidelity Institutional Money Market Prime Portfolio, 2.45%(d)       | 10,964,899    |
|            | <b>Total Money Market Funds</b>                                     | 21,095,749    |

| Principal Amount |  |            |
|------------------|--|------------|
|                  | <b>U.S. Government and Agency Discount Notes 4.1%</b>            |            |
| \$ 9,400,000     | Federal Home Loan Bank Discount Notes, 1.82%, 08/01/08(g)        | 9,400,000  |
|                  | <b>Total Short-Term Securities<br/>(Cost \$30,495,749) 13.3%</b> | 30,495,749 |

| Contracts | Options Purchased   |             |
|-----------|---|-------------|
|           | <b>Outstanding Call Options<br/>Purchased 0.1%</b>  |             |
| 50        | Alexion Pharmaceuticals, Inc., strike price \$70, expires 11/24/08                          | 130,500     |
| 9,000     | Teva Pharmaceutical Industries Ltd. (ADR), strike price \$52.50, expires 11/21/08           | 3,316       |
|           | <b>Total Outstanding Options Purchased<br/>(Cost \$55,075) 0.1%</b>                         | 133,816     |
|           | <b>Total Investments Before Outstanding Options Written<br/>(Cost \$197,927,524*) 99.9%</b> | 228,246,350 |

Options Written

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| <b>Outstanding Call Options Written (2.0)%</b> |  |           |
|--|--|-----------|
| (75)   | Abbott Laboratories, strike price \$57.50, expires 11/24/08            | (19,875)  |
| (75)   | Abbott Laboratories, strike price \$60, expires 11/24/08               | (12,375)  |
| (100)  | Aetna, Inc., strike price \$50, expires 01/19/09                       | (13,000)  |
| (5,000)  | Alcon, Inc., strike price \$155, expires 11/21/08                      | (107,968) |
| (50)   | Alcon, Inc., strike price \$170, expires 11/24/08                      | (61,750)  |
| (50)   | Alcon, Inc., strike price \$175, expires 11/24/08                      | (48,000)  |
| (195)  | Alexion Pharmaceuticals, Inc., strike price \$100, expires 09/22/08    | (88,725)  |
| (60)   | Alexion Pharmaceuticals, Inc., strike price \$70, expires 08/18/08     | (900)     |
| (200)  | Alexion Pharmaceuticals, Inc., strike price \$80, expires 11/24/08     | (372,000) |
| (200)  | Alexion Pharmaceuticals, Inc., strike price \$85, expires 11/24/08     | (309,000) |
| (67)   | Alexion Pharmaceuticals, Inc., strike price \$90, expires 08/18/08     | (40,200)  |
| (65)   | Alexion Pharmaceuticals, Inc., strike price \$90, expires 09/22/08     | (55,900)  |
| (10,000)                                       | Alphatec Holdings, Inc., strike price \$6.03, expires 11/21/08         | (2,939)   |
| (10,000)                                       | Amgen, Inc., strike price \$50.05, expires 11/21/08                    | (139,467) |
| (10,000)                                       | Amgen, Inc., strike price \$60, expires 11/07/08                       | (57,848)  |
| (100)  | Auxilium Pharmaceuticals, Inc., strike price \$40, expires 09/22/08    | (16,750)  |
| (235)  | Auxilium Pharmaceuticals, Inc., strike price \$42.50, expires 11/14/08 | (51,700)  |
| (75)   | Baxter Intl., Inc., strike price \$62.50, expires 08/18/08             | (562)     |
| (200)  | Baxter Intl., Inc., strike price \$67.50, expires 11/24/08             | (89,000)  |
| (300)  | Baxter Intl., Inc., strike price \$70, expires 11/24/08                | (93,000)  |
| (50)   | Beckman Coulter, Inc., strike price \$75, expires 11/24/08             | (15,625)  |

Schedule of Investments July 31, 2008 (Unaudited) (continued)

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

| Contracts | Options Written  | Value       |
|-----------|--|-------------|
|           | <b>Outstanding Call Options Written (cont d)</b>                               |             |
| (10,000)  | Becton Dickinson & Co., strike price \$85.05, expires 11/17/08                 | \$ (42,724) |
| (200)     | Becton Dickinson & Co., strike price \$90, expires 12/22/08                    | (56,000)    |
| (100)     | Becton Dickinson & Co., strike price \$95, expires 12/22/08                    | (12,750)    |
| (25,000)  | BioMarin Pharmaceuticals, Inc., strike price \$41, expires 11/21/08            | (26,332)    |
| (10,000)  | BioMarin Pharmaceuticals, Inc., strike price \$43, expires 11/21/08            | (6,773)     |
| (250)     | Bristol-Myers Squibb Co., strike price \$25, expires 12/22/08                  | (9,125)     |
| (25)      | C.R. Bard, Inc., strike price \$110, expires 01/19/09                          | (2,437)     |
| (190)     | Celgene Corp., strike price \$71.50, expires 11/14/08                          | (166,235)   |
| (300)     | Celgene Corp., strike price \$75, expires 08/18/08                             | (75,000)    |
| (200)     | Charles River Laboratories Intl., Inc., strike price \$65, expires 11/24/08    | (110,000)   |
| (26)      | Charles River Laboratories Intl., Inc., strike price \$70, expires 11/24/08    | (7,930)     |
| (8,500)   | Coviden Ltd., strike price \$51.32, expires 11/21/08                           | (19,730)    |
| (5,000)   | CVS Caremark Corp., strike price \$44, expires 11/21/08                        | (1,950)     |
| (200)     | CVS Caremark Corp., strike price \$45, expires 11/24/08                        | (4,000)     |
| (150)     | Cyberonics, Inc., strike price \$25, expires 11/03/08                          | (64,731)    |
| (200)     | Cyberonics, Inc., strike price \$27.50, expires 01/19/09                       | (82,000)    |
| (180)     | Cyberonics, Inc., strike price \$30, expires 08/18/08                          | (6,300)     |
| (125)     | Cyberonics, Inc., strike price \$30, expires 09/22/08                          | (17,500)    |
| (65)      | DaVita, Inc., strike price \$55, expires 01/19/09                              | (34,125)    |
| (250)     | Eli Lilly & Co., strike price \$50, expires 09/22/08                           | (12,500)    |
| (10,000)  | Eli Lilly & Co., strike price \$55.90, expires 11/21/08                        | (5,464)     |
| (10,000)  | Fresenius Medical Care AG & Co. KGaA, strike price 35.50 EUR, expires 11/04/08 | (34,138)    |
| (50)      | Genentech, Inc., strike price \$75, expires 12/22/08                           | (110,750)   |
| (15,000)  | Genentech, Inc., strike price \$75.64, expires 11/21/08                        | (311,987)   |
| (10,000)  | Genzyme Corp., strike price \$72.19, expires 11/21/08                          | (80,634)    |
| (501)     | Genzyme Corp., strike price \$75, expires 08/18/08                             | (134,018)   |
| (100)     | Genzyme Corp., strike price \$80, expires 10/20/08                             | (30,000)    |
| (15,000)  | Gilead Sciences, Inc., strike price \$55, expires 11/21/08                     | (56,450)    |
| (35,000)  | Gilead Sciences, Inc., strike price \$56, expires 11/21/08                     | (117,068)   |
| (150)     | Gilead Sciences, Inc., strike price \$57.50, expires 11/24/08                  | (40,875)    |
| (100)     | Gilead Sciences, Inc., strike price \$60, expires 11/24/08                     | (18,750)    |
| (171)     | Hologic, Inc., strike price \$22.50, expires 08/18/08                          | (68,400)    |
| (12,000)  | Immucor, Inc., strike price \$30.25, expires 11/21/08                          | (34,613)    |
| (250)     | Integra LifeSciences Holdings Corp., strike price \$50, expires 09/22/08       | (23,750)    |
| (10,000)  | Integra LifeSciences Holdings Corp., strike price \$50, expires 11/21/08       | (21,321)    |

| Contracts | Options Written  | Value       |
|-----------|--|-------------|
|           | <b>Outstanding Call Options Written (cont d)</b>                         |             |
| (135)     | Integra LifeSciences Holdings Corp., strike price \$50, expires 12/22/08 | \$ (33,413) |
| (10)      | Integra LifeSciences Holdings Corp., strike price \$50, expires 01/19/09 | (3,150)     |
| (7,000)   | Johnson & Johnson, strike price \$68, expires 08/28/08                   | (7,887)     |
| (100)     | Johnson & Johnson, strike price \$70, expires 01/19/09                   | (22,000)    |
| (6)       | Johnson & Johnson, strike price \$70, expires 10/20/08                   | (750)       |
| (150)     | Johnson & Johnson, strike price \$70, expires 11/03/08                   | (25,111)    |
| (210)     | Medco Health Solutions, Inc., strike price \$53, expires 11/03/08        | (34,511)    |
| (200)     | Medtronic, Inc., strike price \$52.50, expires 11/14/08                  | (60,256)    |
| (50)      | Medtronic, Inc., strike price \$55, expires 01/19/09                     | (13,125)    |
| (48)      | Medtronic, Inc., strike price \$55, expires 11/24/08                     | (9,480)     |
| (200)     | Merck & Co., Inc., strike price \$37.50, expires 08/18/08                | (1,500)     |
| (50)      | Millipore Corp., strike price \$75, expires 01/19/09                     | (19,500)    |
| (150)     | Novartis AG (ADR), strike price \$53, expires 11/03/08                   | (103,125)   |
| (100)     | Novartis AG (ADR), strike price \$60, expires 01/19/09                   | (34,500)    |
| (350)     | Pfizer, Inc., strike price \$20, expires 12/22/08                        | (22,225)    |
| (100)     | Poniard Pharmaceuticals, Inc., strike price \$5, expires 12/22/08        | (6,000)     |
| (75)      | Rigel Pharmaceuticals, Inc., strike price \$25, expires 12/22/08         | (33,750)    |
| (15,000)  | Roche Holding AG, strike price 190 CHF, expires 11/07/08                 | (166,882)   |
| (20)      | Sequenom, Inc., strike price \$22.50, expires 12/22/08                   | (8,200)     |
| (20)      | Sequenom, Inc., strike price \$25, expires 12/22/08                      | (6,100)     |

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|   |   |                    |
|---|---|--------------------|
| (13,000)                                      | St. Jude Medical, Inc., strike price \$45.25, expires 11/21/08                    | (53,658)           |
| (205)   | Stryker Corp., strike price \$72, expires 11/07/08                                | (16,095)           |
| (200)   | Teva Pharmaceutical Industries Ltd. (ADR), strike price \$47.50, expires 09/22/08 | (15,000)           |
| (100)   | Teva Pharmaceutical Industries Ltd. (ADR), strike price \$47.50, expires 12/22/08 | (19,750)           |
| (9,000)                                       | Teva Pharmaceutical Industries Ltd. (ADR), strike price \$53, expires 11/21/08    | (2,866)            |
| (100)   | United Therapeutics Corp., strike price \$115, expires 11/24/08                   | (161,500)          |
| (150)   | Varian Medical Systems, Inc., strike price \$55, expires 11/24/08                 | (114,750)          |
| (182)   | Varian Medical Systems, Inc., strike price \$60, expires 08/18/08                 | (24,570)           |
| (50)  | Varian Medical Systems, Inc., strike price \$60, expires 11/24/08                 | (22,250)           |
| (6,000)                                       | Vertex Pharmaceuticals, Inc., strike price \$35, expires 11/21/08                 | (25,245)           |
| (20)  | Wyeth, strike price \$45, expires 08/18/08  | (9,700)            |
| (45)  | Wyeth, strike price \$50, expires 08/18/08  | (225)              |
| (122)   | Zimmer Holdings, Inc., strike price \$67, expires 08/22/08                        | (35,162)           |
| (122)   | Zimmer Holdings, Inc., strike price \$67, expires 09/12/08                        | (44,104)           |
| <b>Total Outstanding Call Options Written</b> |   | <b>(4,599,284)</b> |

## Schedule of Investments July 31, 2008 (Unaudited) (continued)

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

| Contracts  | Options Written   | Value                 |
|--|---|-----------------------|
| <b>Outstanding Put Options Written (0.0)%</b>                                      |   |                       |
| (80)   | Charles River Laboratories Intl., Inc., strike price \$60, expires 08/18/08 | \$ (1,600)            |
| (501)  | Genzyme Corp., strike price \$75, expires 08/18/08                          | (52,605)              |
| (48)   | Medtronic, Inc., strike price \$45, expires 11/24/08                        | (2,760)               |
| <b>Total Outstanding Put Options Written</b>                                       |   | <b>(56,965)</b>       |
| <b>Total Outstanding Options Written<br/>(Premium Received \$3,076,444) (2.0)%</b> |   | <b>(4,656,249)</b>    |
| <b>Total Investments Net of Outstanding Options Written 97.9%</b>                  |   | <b>223,590,101</b>    |
| <b>Other Assets in Excess of<br/>Liabilities 2.1%</b>                              |   | <b>4,883,863</b>      |
| <b>Net Assets 100.0%</b>   |   | <b>\$ 228,473,964</b> |

\* The cost and unrealized appreciation (depreciation) of investments as of July 31, 2008, as computed for federal income tax purposes, were as follows:

|                               |                |
|-------------------------------|----------------|
| Aggregate cost                | \$ 198,339,019 |
| Gross unrealized appreciation | \$ 32,292,873  |
| Gross unrealized depreciation | (2,385,542)    |
| Net unrealized appreciation   | \$ 29,907,331  |

- (a) Security, or a portion thereof, pledged as collateral for outstanding options written.
- (b) Non-income producing security.
- (c) Security, or a portion of security, is on loan.
- (d) Represents current yield as of report date.
- (e) Investments in companies considered to be an affiliate of the Trust, for purposes of Section 2(a)(3) of the Investment Company Act of 1940 were as follows:

| Affiliate                       | Net Activity | Interest Income |
|---------------------------------|--------------|-----------------|
| BlackRock Liquidity Series, LLC |              |                 |
| Money Market Series             | 6,955,250    | \$56,036        |

- (f) Security purchased with the cash proceeds from securities loans.

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(g) Rate shown is the yield to maturity as of the date of purchase.

**KEY TO ABBREVIATIONS**

|     |                             |
|-----|-----------------------------|
| ADR | American Depositary Receipt |
| CHF | Swiss Franc                 |
| EUR | Euro                        |



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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/ Donald C. Burke  
Donald C. Burke  
Chief Executive Officer of  
BlackRock Health Sciences Trust

Date: September 19, 2008

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/ Donald C. Burke  
Donald C. Burke  
Chief Executive Officer (principal executive officer) of  
BlackRock Health Sciences Trust

Date: September 19, 2008

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

Date: September 19, 2008