

BlackRock Health Sciences Trust  
Form N-Q  
March 29, 2011

**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: 10/31/2011

Date of reporting period: 01/31/2011

Item 1      Schedule of Investments

## Schedule of Investments January 31, 2011 (Unaudited)

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

|   | Shares  | Value      |
|---|---------|------------|
| <b>Common Stocks</b>                              |         |            |
| <b>Biotechnology 13.9%</b>                        |         |            |
| 3SBio, Inc. - ADR(a)(b)                           | 42,000  | \$ 675,780 |
| Alexion Pharmaceuticals, Inc.(a)(b)               | 24,800  | 2,078,736  |
| Amgen, Inc.(a)(b)                                 | 92,300  | 5,083,884  |
| Ariad Pharmaceuticals, Inc.(a)                    | 39,300  | 250,538    |
| Arqule, Inc.(a)                                   | 32,100  | 196,773    |
| Biogen Idec, Inc.(a)(b)                           | 15,500  | 1,014,785  |
| BioMarin Pharmaceutical, Inc.(a)(b)               | 91,800  | 2,333,556  |
| Celera Corp.(a)                                   | 34,100  | 210,909    |
| Celgene Corp.(a)(b)                               | 43,800  | 2,257,014  |
| Cepheid, Inc.(a)(b)                               | 24,900  | 591,624    |
| Cubist Pharmaceuticals, Inc.(a)(b)                | 28,700  | 629,678    |
| Gilead Sciences, Inc.(a)(b)                       | 136,160 | 5,225,821  |
| Human Genome Sciences, Inc.(a)(b)                 | 79,700  | 1,933,522  |
| Ironwood Pharmaceuticals, Inc.(a)                 | 29,300  | 316,147    |
| Momenta Pharmaceuticals, Inc.(b)                  | 46,200  | 590,898    |
| Myriad Genetics, Inc.(a)(b)                       | 93,100  | 1,858,276  |
| United Therapeutics Corp.(a)(b)                   | 39,900  | 2,712,402  |
| Vertex Pharmaceuticals, Inc.(a)(b)                | 20,700  | 805,023    |
|   |         | 28,765,366 |
| <b>Health Care Equipment &amp; Supplies 23.0%</b> |         |            |
| ABIOMED, Inc.(a)                                  | 3,400   | 33,320     |
| Alere, Inc.(a)(b)                                 | 30,800  | 1,206,436  |
| American Medical Systems Holdings, Inc.(a)(b)     | 90,500  | 1,766,560  |
| Arthrocare Corp.(a)                               | 7,700   | 215,523    |
| Baxter International, Inc.(b)                     | 105,300 | 5,105,997  |
| Becton Dickinson & Co.(b)                         | 62,400  | 5,176,080  |
| Boston Scientific Corp.(a)(b)                     | 97,600  | 681,248    |
| China Medical Technologies, Inc. - ADR(a)(b)      | 29,500  | 362,260    |
| CONMED Corp.(a)                                   | 23,600  | 616,196    |
| Cooper Cos., Inc. (The)(b)                        | 65,500  | 3,755,770  |
| Covidien Plc                                      | 108,900 | 5,169,483  |
| CR Bard, Inc.(b)                                  | 11,200  | 1,056,720  |
| Edwards Lifesciences Corp.(a)(b)                  | 17,700  | 1,491,933  |
| Gen-Probe, Inc.(a)(b)                             | 81,400  | 5,119,246  |
| Given Imaging Ltd.(a)                             | 4,000   | 67,080     |
| Haemonetics Corp.(a)(b)                           | 25,100  | 1,489,434  |
| Hologic, Inc.(a)(b)                               | 234,900 | 4,679,208  |
| Integra LifeSciences Holdings Corp.(a)(b)         | 26,600  | 1,233,708  |
| Masimo Corp.(b)                                   | 28,100  | 842,298    |
| Medtronic, Inc.(b)                                | 82,100  | 3,146,072  |
| Natus Medical, Inc.(a)                            | 20,700  | 311,742    |
| St. Jude Medical, Inc.(a)(b)                      | 29,100  | 1,178,550  |
| Straumann Holding AG                              | 4,300   | 1,053,806  |
| Symex Corp.                                       | 7,800   | 509,901    |
| Varian Medical Systems, Inc.(a)(b)                | 22,400  | 1,513,568  |
|   |         | 47,782,139 |
| <b>Health Care Providers &amp; Services 28.1%</b> |         |            |
| Aetna, Inc.(b)                                    | 166,800 | 5,494,392  |

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|   |         |           |
|---|---------|-----------|
| AmerisourceBergen Corp.(b)                        | 34,600  | 1,240,756 |
| Cardinal Health, Inc.(b)                          | 102,300 | 4,246,473 |
| Community Health Systems, Inc.(a)(b)              | 15,000  | 526,800   |
| DaVita, Inc.(a)(b)                                | 78,600  | 5,804,610 |
| Express Scripts, Inc.(a)(b)                       | 112,360 | 6,329,239 |
| Fleury SA(b)                                      | 46,200  | 692,882   |
| Fresenius Medical Care AG & Co. KGaA(b)           | 127,900 | 7,482,411 |
| Health Management Associates, Inc., Class A(a)(b) | 90,000  | 819,000   |
| Henry Schein, Inc.(a)(b)                          | 69,500  | 4,563,370 |
| Laboratory Corp. of America Holdings(a)(b)        | 48,200  | 4,333,662 |
| McKesson Corp.(b)                                 | 16,200  | 1,217,754 |
| Medco Health Solutions, Inc.(a)(b)                | 86,810  | 5,297,146 |
| PSS World Medical, Inc.(a)(b)                     | 36,200  | 862,646   |
| Sinopharm Group Co. - H Shares                    | 218,300 | 775,507   |
| Tenet Healthcare Corp.(a)(b)                      | 313,400 | 2,084,110 |
| UnitedHealth Group, Inc.(b)                       | 159,700 | 6,555,685 |

58,326,443

**Life Sciences Tools & Services 9.1%**

|   |        |           |
|---|--------|-----------|
| Agilent Technologies, Inc.(a)(b)            | 70,000 | 2,928,100 |
| Dionex Corp.(a)                             | 26,300 | 3,102,874 |
| Life Technologies Corp.(a)(b)               | 44,100 | 2,394,189 |
| Lonza Group AG                              | 14,500 | 1,142,898 |
| Mettler-Toledo International, Inc.(a)(b)    | 34,600 | 5,161,974 |
| Pharmaceutical Product Development, Inc.(b) | 37,400 | 1,089,836 |
| ShangPharma Corp. - ADR(a)                  | 27,300 | 358,176   |
| Tecan Group AG(b)                           | 17,600 | 1,498,051 |
| Thermo Fisher Scientific, Inc.(a)(b)        | 21,500 | 1,231,305 |

18,907,403

**Machinery 1.5%**

|                  |        |           |
|------------------|--------|-----------|
| Danaher Corp.(b) | 39,000 | 1,796,340 |
| Pall Corp.(b)    | 21,800 | 1,207,938 |

3,004,278

**Pharmaceuticals 20.7%**

|                                    |         |           |
|------------------------------------|---------|-----------|
| Abbott Laboratories(b)             | 68,200  | 3,079,912 |
| Allergan, Inc.(b)                  | 57,500  | 4,060,075 |
| Bayer AG(b)                        | 46,300  | 3,418,767 |
| Bristol-Myers Squibb Co.(b)        | 120,900 | 3,044,262 |
| GlaxoSmithKline Plc(b)             | 60,900  | 1,099,629 |
| Glenmark Pharmaceuticals Ltd.(a)   | 81,300  | 545,442   |
| Hospira, Inc.(a)(b)                | 33,500  | 1,850,205 |
| Impax Laboratories, Inc.(a)(b)     | 65,600  | 1,523,232 |
| Johnson & Johnson(b)               | 86,570  | 5,174,289 |
| Merck & Co., Inc.(b)               | 62,300  | 2,066,491 |
| Mylan, Inc.(a)(b)                  | 198,800 | 4,604,208 |
| Novartis AG(b)                     | 52,200  | 2,905,964 |
| Pfizer, Inc.(b)                    | 371,300 | 6,765,085 |
| Watson Pharmaceuticals, Inc.(a)(b) | 51,800  | 2,824,135 |

42,961,696

**Total Long-Term Investments**

(Cost \$178,551,551) 96.3%

199,747,325

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**Short-Term Securities**

|  |            |            |
|--|------------|------------|
| BlackRock Liquidity Funds, TempFund, Institutional Class,<br>0.17%(c)(d) | 10,580,569 | 10,580,569 |
|--|------------|------------|

**Total Short-Term Securities**

|                          |  |            |
|--------------------------|--|------------|
| (Cost \$10,580,569) 5.1% |  | 10,580,569 |
|--------------------------|--|------------|

**Total Investments Before Outstanding Options Written**

|                              |  |             |
|------------------------------|--|-------------|
| (Cost \$189,132,120*) 101.4% |  | 210,327,894 |
|------------------------------|--|-------------|

**Contracts**

**Options Written**

**Exchange-Traded Call Options Written (0.6)%**

|  |     |       |
|--|-----|-------|
| 3SBio, Inc. - ADR, Strike Price USD 17.50, Expires 3/21/11 | 30  | (975) |
| Abbott Laboratories, Strike Price USD 49, Expires 2/22/11  | 375 | (750) |

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## Schedule of Investments (continued)

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

|  | Contracts | Value       |
|--|-----------|-------------|
| <b>Options Written</b>   |           |             |
| <b>Exchange-Traded Call Options Written (continued)</b>                          |           |             |
| Aetna, Inc., Strike Price USD 31, Expires 2/22/11                                | 260       | \$ (58,110) |
| Aetna, Inc., Strike Price USD 34, Expires 3/21/11                                | 260       | (20,800)    |
| Agilent Technologies, Inc., Strike Price USD 44, Expires 2/22/11                 | 50        | (2,275)     |
| Agilent Technologies, Inc., Strike Price USD 41, Expires 2/22/11                 | 40        | (7,020)     |
| Agilent Technologies, Inc., Strike Price USD 43, Expires 2/22/11                 | 10        | (755)       |
| Agilent Technologies, Inc., Strike Price USD 44, Expires 3/21/11                 | 130       | (11,375)    |
| Alere, Inc., Strike Price USD 36, Expires 2/22/11                                | 100       | (37,000)    |
| Alexion Pharmaceuticals, Inc., Strike Price USD 85, Expires 2/21/11              | 35        | (8,575)     |
| Alexion Pharmaceuticals, Inc., Strike Price USD 80, Expires 2/22/11              | 50        | (26,750)    |
| Allergan, Inc., Strike Price USD 70, Expires 2/22/11                             | 30        | (5,925)     |
| Allergan, Inc., Strike Price USD 72.50, Expires 3/21/11                          | 160       | (24,000)    |
| American Medical Systems Holdings, Inc., Strike Price USD 20, Expires 2/22/11    | 285       | (10,688)    |
| AmerisourceBergen Corp., Strike Price USD 34, Expires 2/22/11                    | 110       | (23,650)    |
| Amgen, Inc., Strike Price USD 57.50, Expires 2/22/11                             | 50        | (925)       |
| Amgen, Inc., Strike Price USD 57.50, Expires 3/21/11                             | 310       | (19,065)    |
| Baxter International, Inc., Strike Price USD 52.50, Expires 2/22/11              | 300       | (1,500)     |
| Baxter International, Inc., Strike Price USD 50, Expires 2/22/11                 | 50        | (1,500)     |
| Becton Dickinson & Co., Strike Price USD 85, Expires 2/22/11                     | 70        | (3,150)     |
| Becton Dickinson & Co., Strike Price USD 85, Expires 3/21/11                     | 130       | (10,075)    |
| Biogen Idec, Inc., Strike Price USD 70, Expires 4/18/11                          | 50        | (6,875)     |
| Boston Scientific Corp., Strike Price USD 8, Expires 2/22/11                     | 976       | (3,904)     |
| Bristol-Myers Squibb Co., Strike Price USD 26, Expires 2/22/11                   | 445       | (4,673)     |
| Cardinal Health, Inc., Strike Price USD 40, Expires 2/22/11                      | 35        | (7,263)     |
| Cardinal Health, Inc., Strike Price USD 41, Expires 3/21/11                      | 100       | (18,750)    |
| Cardinal Health, Inc., Strike Price USD 42, Expires 3/21/11                      | 205       | (27,163)    |
| Celgene Corp., Strike Price USD 60, Expires 2/22/11                              | 150       | (975)       |
| Cepheid, Inc., Strike Price USD 25, Expires 3/21/11                              | 80        | (8,200)     |
| China Medical Technologies, Inc. - ADR, Strike Price USD 12, Expires 2/22/11     | 100       | (7,500)     |
| Community Health Systems, Inc., Strike Price USD 36, Expires 3/21/11             | 50        | (7,125)     |
| Cooper Cos., Inc. (The), Strike Price USD 60, Expires 2/21/11                    | 60        | (2,400)     |
| Cooper Cos., Inc. (The), Strike Price USD 60, Expires 5/23/11                    | 150       | (34,500)    |
| Covidien Plc, Strike Price USD 50, Expires 3/21/11                               | 140       | (11,550)    |
| Covidien Plc, Strike Price USD 47.50, Expires 4/18/11                            | 220       | (48,400)    |
| CR Bard, Inc., Strike Price USD 95, Expires 3/21/11                              | 45        | (10,575)    |
| Cubist Pharmaceuticals, Inc., Strike Price USD 23, Expires 3/21/11               | 95        | (6,175)     |
| Danaher Corp., Strike Price USD 47, Expires 2/21/11                              | 115       | (5,175)     |
| Danaher Corp., Strike Price USD 48, Expires 2/22/11                              | 20        | (300)       |
| Edwards Lifesciences Corp., Strike Price USD 70, Expires 2/22/11                 | 50        | (73,500)    |
| Express Scripts, Inc., Strike Price USD 57.50, Expires 2/22/11                   | 250       | (25,750)    |
| Express Scripts, Inc., Strike Price USD 55, Expires 2/22/11                      | 60        | (14,400)    |
| Gen-Probe, Inc., Strike Price USD 60, Expires 2/22/11                            | 207       | (75,555)    |
| Gilead Sciences, Inc., Strike Price USD 40, Expires 2/21/11                      | 270       | (6,075)     |
| Gilead Sciences, Inc., Strike Price USD 39, Expires 2/21/11                      | 450       | (23,625)    |
| Haemonetics Corp., Strike Price USD 60, Expires 3/21/11                          | 22        | (3,960)     |
| Health Management Associates, Inc., Class A, Strike Price USD 9, Expires 2/22/11 | 80        | (3,400)     |
| Hologic, Inc., Strike Price USD 19, Expires 2/22/11                              | 200       | (24,500)    |
| Hologic, Inc., Strike Price USD 20, Expires 3/21/11                              | 570       | (51,300)    |
| Hospira, Inc., Strike Price USD 60, Expires 5/23/11                              | 30        | (3,675)     |
| Human Genome Sciences, Inc., Strike Price USD 25, Expires 2/22/11                | 130       | (6,565)     |
| Human Genome Sciences, Inc., Strike Price USD 27, Expires 4/18/11                | 130       | (19,045)    |
| Impax Laboratories, Inc., Strike Price USD 22.50, Expires 3/21/11                | 190       | (32,775)    |
| Integra LifeSciences Holdings Corp., Strike Price USD 50, Expires 6/20/11        | 80        | (15,200)    |
| Laboratory Corp. of America Holdings, Strike Price USD 85, Expires 2/22/11       | 17        | (9,605)     |

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|  |     |          |
|--|-----|----------|
| Laboratory Corp. of America Holdings, Strike Price USD 90, Expires 2/22/11 | 75  | (15,563) |
| Laboratory Corp. of America Holdings, Strike Price USD 95, Expires 5/23/11 | 65  | (13,975) |
| Life Technologies Corp., Strike Price USD 55, Expires 2/22/11              | 60  | (7,650)  |
| Life Technologies Corp., Strike Price USD 55, Expires 5/23/11              | 85  | (25,713) |
| Masimo Corp., Strike Price USD 30, Expires 2/21/11                         | 60  | (6,600)  |
| McKesson Corp., Strike Price USD 75, Expires 5/23/11                       | 55  | (22,275) |
| Medco Health Solutions, Inc., Strike Price USD 65, Expires 3/21/11         | 285 | (22,800) |
| Medtronic, Inc., Strike Price USD 37, Expires 2/22/11                      | 60  | (9,750)  |
| Medtronic, Inc., Strike Price USD 38, Expires 2/22/11                      | 210 | (19,320) |
| Merck & Co., Inc., Strike Price USD 34, Expires 2/21/11                    | 205 | (6,150)  |
| Momenta Pharmaceuticals, Inc., Strike Price USD 15, Expires 2/21/11        | 150 | (2,250)  |
| Mylan, Inc., Strike Price USD 22, Expires 2/22/11                          | 200 | (28,200) |
| Mylan, Inc., Strike Price USD 24, Expires 3/21/11                          | 450 | (32,175) |

## Schedule of Investments (continued)

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

|  | Contracts | Value       |
|--|-----------|-------------|
| <b>Options Written</b>   |           |             |
| <b>Exchange-Traded Call Options Written (continued)</b>  |           |             |
| Myriad Genetics, Inc., Strike Price USD 24, Expires 2/22/11  | 100       | \$ (1,500)  |
| Myriad Genetics, Inc., Strike Price USD 23, Expires 3/21/11  | 150       | (3,750)     |
| Myriad Genetics, Inc., Strike Price USD 24, Expires 3/21/11  | 100       | (1,500)     |
| Pall Corp., Strike Price USD 55, Expires 3/21/11   | 90        | (21,375)    |
| Pfizer, Inc., Strike Price USD 19, Expires 3/21/11   | 150       | (3,450)     |
| Pharmaceutical Product Development, Inc., Strike Price USD 30, Expires 4/18/11   | 120       | (12,000)    |
| PSS World Medical, Inc., Strike Price USD 25, Expires 5/23/11  | 120       | (11,700)    |
| Tenet Healthcare Corp., Strike Price USD 7, Expires 2/22/11  | 250       | (1,875)     |
| UnitedHealth Group, Inc., Strike Price USD 41, Expires 2/21/11   | 530       | (53,265)    |
| Varian Medical Systems, Inc., Strike Price USD 75, Expires 5/23/11   | 65        | (6,013)     |
| Vertex Pharmaceuticals, Inc., Strike Price USD 41, Expires 3/21/11   | 70        | (7,000)     |
| Watson Pharmaceuticals, Inc., Strike Price USD 55, Expires 2/22/11   | 20        | (2,200)     |
| Watson Pharmaceuticals, Inc., Strike Price USD 55, Expires 5/23/11   | 130       | (34,450)    |
| <b>Total Exchange-Traded Call Options Written</b>  |           | (1,247,795) |
| <b>Exchange-Traded Put Options Written 0.0%</b>  |           |             |
| Dendreon Corp., Strike Price USD 35, Expires 2/21/11   | 148       | (15,318)    |
| Momenta Pharmaceuticals, Inc., Strike Price USD 13, Expires 2/21/11  | 300       | (21,750)    |
| Waters Corp., Strike Price USD 75, Expires 2/21/11   | 70        | (5,775)     |
| <b>Total Exchange-Traded Put Options Written</b>   |           | (42,843)    |
| <b>Over-the-Counter Call Options Written (0.3)%</b>  |           |             |
| Bayer AG, Strike Price EUR 56, Expires 2/21/11, Broker Morgan Stanley & Co., Inc.                                      | 105       | (7,120)     |
| Bayer AG, Strike Price EUR 55.52, Expires 3/30/11, Broker Societe General Securities Corp.                             | 3,400     | (5,754)     |
| BioMarin Pharmaceutical, Inc., Strike Price USD 27.50, Expires 2/22/11, Broker Jefferies & Co., Inc.                   | 75        | (2,790)     |
| BioMarin Pharmaceutical, Inc., Strike Price USD 26, Expires 2/28/11, Broker Barclays Capital, Inc.                     | 25,000    | (16,794)    |
| DaVita, Inc., Strike Price USD 71.71, Expires 2/03/11, Broker Morgan Stanley & Co., Inc.                               | 25,500    | (54,659)    |
| Express Scripts, Inc., Strike Price USD 59, Expires 3/21/11, Broker Jefferies & Co., Inc.                              | 60        | (5,646)     |
| Fleury SA, Strike Price USD 26.16, Expires 3/01/11, Broker Citigroup Global Markets, Inc.                              | 12,000    | (2,868)     |
| Fresenius Medical Care AG & Co. KGaA, Strike Price EUR 42.29, Expires 3/16/11, Broker Societe General Securities Corp. | 19,000    | (34,311)    |
| Fresenius Medical Care AG & Co. KGaA, Strike Price EUR 43, Expires 3/21/11, Broker Morgan Stanley & Co., Inc.          | 190       | (28,709)    |
| Fresenius Medical Care AG & Co. KGaA, Strike Price EUR 42.29, Expires 3/23/11, Broker Societe General Securities Corp. | 19,000    | (36,507)    |
| Gen-Probe, Inc., Strike Price USD 50.70, Expires 2/03/11, Broker Morgan Stanley & Co., Inc.                            | 12,200    | (148,702)   |
| GlaxoSmithKline Plc, Strike Price GBP 12.65, Expires 2/08/11, Broker Credit Suisse First Boston                        | 16,000    | (34)        |
| Health Management Associates, Inc., Class A, Strike Price USD 9.25, Expires 2/22/11, Broker Jefferies & Co., Inc.      | 280       | (7,851)     |
| Henry Schein, Inc., Strike Price USD 67.50, Expires 4/18/11, Broker Jefferies & Co., Inc.                              | 230       | (29,146)    |
| Hospira, Inc., Strike Price USD 56, Expires 2/22/11, Broker Jefferies & Co., Inc.                                      | 80        | (9,823)     |
| Johnson & Johnson, Strike Price USD 62.75, Expires 2/03/11, Broker Jefferies & Co., Inc.                               | 300       |             |
| Johnson & Johnson, Strike Price USD 61, Expires 4/08/11, Broker Goldman Sachs & Co.                                    | 7,000     | (4,032)     |
| Mettler-Toledo International, Inc., Strike Price USD 154.02, Expires 2/15/11, Broker Morgan Stanley & Co., Inc.        | 13,500    | (13,770)    |
| Novartis AG, Strike Price CHF 56, Expires 2/21/11, Broker Morgan Stanley & Co., Inc.                                   | 170       | (1,577)     |
| Pfizer, Inc., Strike Price USD 17.40, Expires 2/07/11, Broker Jefferies & Co., Inc.                                    | 1,135     | (93,855)    |
| St. Jude Medical, Inc., Strike Price USD 43.25, Expires 2/21/11, Broker Jefferies & Co., Inc.                          | 95        | (1,455)     |
| Tecan Group AG, Strike Price CHF 75.66, Expires 2/08/11, Broker Citigroup Global Markets, Inc.                         | 3,100     | (15,422)    |
| Tecan Group AG, Strike Price CHF 77.16, Expires 3/03/11, Broker Citigroup Global Markets, Inc.                         | 3,100     | (12,718)    |



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|  |        |                |
|--|--------|----------------|
| Thermo Fisher Scientific, Inc., Strike Price USD 56.68, Expires 2/15/11, Broker UBS Securities LLC | 21,500 | (29,904)       |
| United Therapeutics Corp., Strike Price USD 68.14, Expires 3/08/11, Broker UBS Securities LLC      | 13,000 | (31,847)       |
| <b>Total Over-the-Counter Call Options Written</b>   |        | (595,294)      |
| <b>Over-the-Counter Put Options Written 0.0%</b>   |        |                |
| Zimmer Holdings, Inc., Strike Price USD 58.50, Expires 2/21/11, Broker Jefferies & Co., Inc.       | 175    | (17,500)       |
| <b>Total Options Written</b>   |        |                |
| (Premiums Received \$1,843,904) (0.9)%   |        | (1,903,432)    |
| <b>Total Investments Net of Outstanding Options Written 100.5%</b>                                 |        | 208,424,462    |
| <b>Liabilities in Excess of Other Assets (0.5)%</b>  |        | (1,096,939)    |
| <b>Net Assets 100.0%</b>   |        | \$ 207,327,523 |

\* The cost and unrealized appreciation (depreciation) of investments as of January 31, 2011 as computed for federal income tax purposes, were as follows:

|                               |  |                |
|-------------------------------|--|----------------|
| Aggregate cost                |  | \$ 191,549,439 |
| Gross unrealized appreciation |  | \$ 20,147,245  |
| Gross unrealized depreciation |  | (1,368,790)    |
| Net unrealized appreciation   |  | \$ 18,778,455  |

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## Schedule of Investments (concluded)

BlackRock Health Sciences Trust (BME)

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

| Affiliate  | Shares Held at   | Net Activity | Shares Held at   | Income   |
|--|------------------|--------------|------------------|----------|
|  | October 31, 2010 |              | January 31, 2011 |          |
| BlackRock Liquidity Funds, TempFund, Institutional Class | 14,067,561       | (3,486,992)  | 10,580,569       | \$ 5,810 |

Foreign currency exchange contracts as of January 31, 2011 were as follows:

| Currency     | Purchased | Currency |         | Counterparty             | Settlement Date | Unrealized Appreciation (Depreciation) |
|--------------|-----------|----------|---------|--------------------------|-----------------|--|
|              |           | Sold     |         |                          |                 |  |
| CHF          | 283,000   | USD      | 298,825 | Deutsche Bank Securities | 2/01/11         | \$ 963                                 |
| CHF          | 326,000   | USD      | 345,430 | Deutsche Bank Securities | 2/03/11         | (81)                                   |
| CHF          | 398,000   | USD      | 422,420 | Citigroup Global Markets | 2/02/11         | (810)                                  |
| USD          | 1,371     | EUR      | 1,000   | Deutsche Bank Securities | 2/02/11         | 2                                      |
| <b>Total</b> |           |          |         |                          |                 | \$ 74                                  |

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 Trust management. This definition may not apply for purposes of this report, which may combine industry sub-classifications for reporting ease.

Fair Value Measurements Various inputs are used in determining the fair value of investments and derivatives, which are as follows:

Level 1 price quotations in active markets/exchanges for identical assets and liabilities

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 derivatives)

The inputs or methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities. For information about the Trust's policy regarding valuation of investments and derivatives and other significant accounting policies, please refer to the Trust's most recent financial statements as contained in its annual report.

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The following tables summarize the inputs used as of January 31, 2011 in determining the fair valuation of the Trust's investments and derivatives:

| Valuation Inputs                 | Level 1               | Level 2              | Level 3 | Total                 |
|----------------------------------|-----------------------|----------------------|---------|-----------------------|
| <b>Assets:</b>                   |                       |                      |         |                       |
| Investments in Securities:       |                       |                      |         |                       |
| Long Term Investments:           |                       |                      |         |                       |
| Common Stocks:                   |                       |                      |         |                       |
| Biotechnology                    | \$ 28,765,366         |                      |         | \$ 28,765,366         |
| Health Care Equipment & Supplies | 46,218,432            | \$ 1,563,707         |         | 47,782,139            |
| Health Care Providers & Services | 50,068,525            | 8,257,918            |         | 58,326,443            |
| Life Sciences Tools & Services   | 17,764,505            | 1,142,898            |         | 18,907,403            |
| Machinery                        | 3,004,278             |                      |         | 3,004,278             |
| Pharmaceuticals                  | 34,991,894            | 7,969,802            |         | 42,961,696            |
| Short-Term Securities            | 10,580,569            |                      |         | 10,580,569            |
| <b>Total</b>                     | <b>\$ 191,393,569</b> | <b>\$ 18,934,325</b> |         | <b>\$ 210,327,894</b> |

| Valuation Inputs                    | Derivative Financial Instruments <sup>1</sup> |                     |         | Total                 |
|-------------------------------------|---|---------------------|---------|-----------------------|
|                                     | Level 1                                       | Level 2             | Level 3 |                       |
| <b>Assets:</b>                      |   |                     |         |                       |
| Foreign currency exchange contracts | \$ 2  | \$ 963              |         | \$ 965                |
| <b>Liabilities:</b>                 |   |                     |         |                       |
| Equity contracts.                   | (1,290,635)                                   | (612,797)           |         | (1,903,432)           |
| Foreign currency exchange contracts |   | (891)               |         | (891)                 |
| <b>Total</b>                        | <b>\$ (1,290,633)</b>                         | <b>\$ (612,725)</b> |         | <b>\$ (1,903,358)</b> |

<sup>1</sup> Derivative financial instruments are foreign currency exchange contracts and options. Foreign currency exchange contracts are valued at the unrealized appreciation/ depreciation on the instrument and options are shown at 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

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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: March 25, 2011

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: March 25, 2011

By: /s/ Neal J. Andrews  
Neal J. Andrews  
Chief Financial Officer (principal financial officer) of BlackRock Health Sciences Trust  
Date: March 25, 2011