

BlackRock Health Sciences Trust
Form N-Q
March 31, 2009

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: 10/31/2009

Date of reporting period: 11/01/2008 - 01/31/2009

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Item 1 ☐ Schedule of Investments

Schedule of Investments January 31, 2009 (Unaudited)

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

Shares	Common Stocks	Value
Biotechnology 18.3%		
15,700	3SBio, Inc. (ADR) (a)	\$ 83,681
4,100	Acorda Therapeutics, Inc. (a)	100,573
38,100	Alexion Pharmaceuticals, Inc. (a)	1,404,747
212,100	Amgen, Inc. (a)(b)	11,633,685
20,300	ARYx Therapeutics, Inc. (a)	46,690
5,000	Biogen Idec, Inc. (a)	243,250
160,500	Celera Corp. (a)	1,354,620
126,160	Genentech, Inc. (a)	10,249,238
50,430	Genzyme Corp. (a)	3,475,636
45,200	Halozyme Therapeutics, Inc. (a)	260,804
33,700	Incyte Corp. Ltd. (a)	98,741
15,420	Integra LifeSciences Holdings Corp. (a)(c)	427,751
7,600	InterMune, Inc. (a)	86,944
13,200	Nanosphere, Inc. (a)	60,060
71,190	Vertex Pharmaceuticals, Inc. (a)	2,352,829
		31,879,249
Commercial Services 1.1%		
45,110	McKesson Corp.	1,993,862
Healthcare Products 22.4%		
43,200	Alcon, Inc.	3,699,648
66,695	Alphatec Holdings, Inc. (a)	144,728
125,550	Baxter International, Inc.	7,363,508
52,880	Beckman Coulter, Inc.	2,629,194
83,000	Becton Dickinson & Co.	6,031,610
35,060	Covidien Ltd.	1,344,200
66,000	Cyberonics, Inc. (a)	1,015,740
59,600	DexCom, Inc. (a)	192,508
32,200	DiaSorin S.p.A.	583,229
87,200	Immucor, Inc. (a)	2,416,312
58,470	Johnson & Johnson	3,373,134
9,400	Masimo Corp. (a)	261,038
141,290	Medtronic, Inc.	4,731,802
207,100	Qiagen N.V. (a)	3,551,765
120,300	ResMed, Inc. (a)	472,324
37,000	Smith & Nephew Plc	268,203
26,800	St. Jude Medical, Inc. (a)	974,716
		39,053,659
Healthcare Services 7.2%		
27,400	AMERIGROUP Corp. (a)	766,378
24,000	Centene Corp. (a)	425,520
6,500	Community Health Systems, Inc. (a)	121,160
11,700	Coventry Health Care, Inc. (a)	177,021
87,280	DaVita, Inc. (a)	4,102,160
60,200	Fresenius Medical Care AG & Co. KGaA	2,693,626
2,900	Laboratory Corp. of America Holdings (a)	171,680
7,900	Mednax, Inc. (a)	265,203
134,000	UnitedHealth Group, Inc.	3,796,220
		12,518,968

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Pharmaceuticals 36.2%		
106,740	Abbott Laboratories	5,917,665
81,990	AmerisourceBergen Corp.	2,977,877
23,800	AstraZeneca Plc	917,115
57,200	Auxilium Pharmaceuticals, Inc. (a)	1,748,032
12,800	BioForm Medical, Inc. (a)	14,848
99,028	BioMarin Pharmaceutical, Inc. (a)	1,907,279
158,300	Bristol-Myers Squibb Co.	3,389,203
26,880	Express Scripts, Inc. (a)	1,445,069
169,660	Gilead Sciences, Inc. (a)	8,613,638
149,110	Medco Health Solutions, Inc. (a)	6,699,512
28,900	Medivation, Inc. (a)(c)	541,875
49,700	Merck & Co., Inc.	1,418,935
27,190	Novartis AG (ADR)	1,121,859
9,100	Optimer Pharmaceuticals, Inc. (a)	95,459
336,800	Pfizer, Inc. (b)	4,910,544
14,800	Pharmasset, Inc. (a)	168,720
61,900	Poniard Pharmaceuticals, Inc. (a)	148,560
59,730	Rigel Pharmaceuticals, Inc. (a)	417,513
48,250	Roche Holding Ltd.	6,773,563
26,200	Sanofi-Aventis SA	1,473,567

Shares	Common Stocks	Value
Pharmaceuticals (cont'd)		
30,150	Teva Pharmaceutical Industries Ltd. (ADR)	\$ 1,249,717
23,660	United Therapeutics Corp. (a)	1,607,697
222,032	Wyeth	9,540,715
		<u>63,098,962</u>

Technology 2.7%		
173,500	CVS Caremark Corp.	4,663,680

Software 0.4%		
12,300	Cerner Corp. (a)	414,756
25,240	MedAssets, Inc. (a)	367,494
		<u>782,250</u>

Total Long-Term Investments (Cost \$160,006,764) 88.3%		153,990,630
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Short-Term Securities

Money Market Fund 9.4%		
16,274,834	BlackRock Liquidity Funds, TempFund, 1.25%(d)(e) (Cost \$16,274,834)	16,274,834

Total investments before outstanding options written (Cost \$176,281,598*) 97.6%		170,265,464
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Contracts	Options Written	
Exchange-Traded Call Options Written (0.8)%		
(275)	Abbott Laboratories, strike price \$55, expires 03/23/09	(69,438)
(10)	Acorda Therapeutics, Inc., strike price \$30, expires 03/23/09	(975)
(100)	Alcon, Inc., strike price \$100, expires 02/23/09	(2,250)
(40)	Alcon, Inc., strike price \$90, expires 03/23/09	(13,200)

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(80)	Alexion Pharmaceuticals, Inc., strike price \$40, expires 02/23/09	(8,000)
(40)	Alexion Pharmaceuticals, Inc., strike price \$42.50, expires 02/23/09	(1,600)
(50)	AMERIGROUP Corp., strike price \$35, expires 03/23/09	(2,000)
(100)	AmerisourceBergen Corp., strike price \$35, expires 02/23/09	(19,000)
(50)	AmerisourceBergen Corp., strike price \$40, expires 03/23/09	(2,250)
(100)	AmerisourceBergen Corp., strike price \$40, expires 05/18/09	(12,500)
(310)	Amgen, Inc., strike price \$55, expires 02/23/09	(47,895)
(250)	Amgen, Inc., strike price \$57.50, expires 03/23/09	(40,750)
(160)	Amgen, Inc., strike price \$60, expires 02/23/09	(3,520)
(200)	Amgen, Inc., strike price \$62.50, expires 02/23/09	(1,600)
(250)	Amgen, Inc., strike price \$65, expires 04/20/09	(14,875)
(150)	Auxilium Pharmaceuticals, Inc., strike price \$35, expires 03/23/09	(15,750)
(500)	Baxter International, Inc., strike price \$57.50, expires 02/23/09	(107,500)
(80)	Beckman Coulter, Inc., strike price \$50, expires 02/23/09	(14,000)
(100)	Beckman Coulter, Inc., strike price \$55, expires 02/23/09	(3,250)
(67)	Becton Dickinson & Co., strike price \$75, expires 02/23/09	(5,862)
(55)	Becton Dickinson & Co., strike price \$75, expires 03/23/09	(11,000)
(100)	Becton Dickinson & Co., strike price \$80, expires 06/22/09	(20,750)

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Schedule of Investments (continued)

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

Contracts	Options Written	Value
Exchange-Traded Call Options Written (cont'd)		
(30)	BioMarin Pharmaceutical, Inc., strike price \$22.50, expires 02/23/09	\$ (750)
(22)	BioMarin Pharmaceutical, Inc., strike price \$25, expires 04/20/09	(825)
(620)	Bristol-Myers Squibb Co., strike price \$25, expires 03/23/09	(11,470)
(100)	Celera Corp., strike price \$12.50, expires 02/23/09	(1,500)
(100)	Celera Corp., strike price \$12.50, expires 03/23/09	(1,500)
(80)	Centene Corp., strike price \$20, expires 03/23/09	(5,800)
(20)	Cerner Corp., strike price \$37.50, expires 06/22/09	(5,000)
(20)	Cerner Corp., strike price \$40, expires 06/22/09	(3,400)
(35)	Coventry Health Care, Inc., strike price \$17.50, expires 04/20/09	(3,062)
(100)	Coviden Ltd., strike price \$40, expires 02/23/09	(5,750)
(100)	Coviden Ltd., strike price \$40, expires 03/23/09	(12,000)
(100)	Coviden Ltd., strike price \$40, expires 04/20/09	(16,500)
(1,225)	CVS Caremark Corp., strike price \$27.50, expires 02/23/09	(101,063)
(100)	CVS Caremark Corp., strike price \$35, expires 02/23/09	(500)
(150)	Cyberonics, Inc., strike price \$17.50, expires 04/20/09	(12,000)
(100)	Cyberonics, Inc., strike price \$20, expires 04/20/09	(2,750)
(50)	DaVita, Inc., strike price \$55, expires 04/20/09	(2,375)
(80)	Express Scripts, Inc., strike price \$70, expires 02/23/09	(400)
(200)	Genentech, Inc., strike price \$90, expires 02/23/09	(5,500)
(420)	Genentech, Inc., strike price \$90, expires 03/23/09	(36,750)
(48)	Genentech, Inc., strike price \$95, expires 03/23/09	(1,320)
(200)	Genzyme Corp., strike price \$72.50, expires 02/23/09	(20,000)
(100)	Genzyme Corp., strike price \$75, expires 03/23/09	(13,500)
(100)	Genzyme Corp., strike price \$75, expires 04/20/09	(22,750)
(100)	Gilead Sciences, Inc., strike price \$52.50, expires 02/23/09	(11,250)
(100)	Gilead Sciences, Inc., strike price \$55, expires 02/23/09	(4,250)
(200)	Gilead Sciences, Inc., strike price \$55, expires 03/23/09	(24,500)
(100)	Gilead Sciences, Inc., strike price \$55, expires 05/18/09	(25,250)
(100)	Gilead Sciences, Inc., strike price \$57.50, expires 05/18/09	(17,250)
(100)	Gilead Sciences, Inc., strike price \$60, expires 08/24/09	(23,500)
(150)	Halozyne Therapeutics, Inc., strike price \$7.50, expires 03/23/09	(4,875)
(485)	Immucor, Inc., strike price \$30, expires 03/23/09	(43,650)
(30)	Integra LifeSciences Holdings Corp., strike price \$30, expires 02/23/09	(1,875)
(124)	Integra LifeSciences Holdings Corp., strike price \$40, expires 03/23/09	(3,720)
(55)	InterMune, Inc., strike price \$22.50, expires 02/23/09	(8,112)
Exchange-Traded Call Options Written (cont'd)		
(60)	Johnson & Johnson, strike price \$60, expires 03/23/09	\$ (5,100)
(50)	Mckesson Corp., strike price \$42.50, expires 02/23/09	(12,750)
(50)	Mckesson Corp., strike price \$45, expires 03/23/09	(9,750)
(50)	Mckesson Corp., strike price \$45, expires 05/18/09	(17,000)
(10)	MedAssets, Inc., strike price \$17.50, expires 02/23/09	(450)
(50)	MedAssets, Inc., strike price \$17.50, expires 03/23/09	(2,875)
(500)	Medco Health Solutions, Inc., strike price \$45, expires 03/23/09	(145,000)
(25)	Medivation, Inc., strike price \$20, expires 03/23/09	(3,500)
(75)	Medivation, Inc., strike price \$22.50, expires 03/23/09	(4,875)
(710)	Medtronic, Inc., strike price \$35, expires 02/23/09	(44,375)
(125)	Merck & Co., Inc., strike price \$30, expires 04/20/09	(16,563)
(150)	Pfizer, Inc., strike price \$16, expires 03/23/09	(2,925)
(320)	Pfizer, Inc., strike price \$19, expires 03/23/09	(800)
(300)	Qiagen NV, strike price \$20, expires 02/23/09	(6,000)
(300)	Qiagen NV, strike price \$20, expires 03/23/09	(11,250)
(20)	Rigel Pharmaceuticals, Inc., strike price \$10, expires 02/23/09	(300)
(60)	Rigel Pharmaceuticals, Inc., strike price \$10, expires 03/23/09	(3,450)
(50)	St. Jude Medical, Inc., strike price \$35, expires 04/20/09	(17,250)
(50)	St. Jude Medical, Inc., strike price \$40, expires 04/20/09	(6,000)
(100)	Teva Pharmaceutical Industries Ltd. (ADR), strike price \$45, expires 02/23/09	(1,500)

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(200)	Teva Pharmaceutical Industries Ltd. (ADR), strike price \$45, expires 03/23/09	(11,500)
(30)	United Therapeutics Corp., strike price \$65, expires 02/23/09	(13,350)
(30)	United Therapeutics Corp., strike price \$70, expires 03/23/09	(10,350)
(150)	UnitedHealth Group, Inc., strike price \$27.50, expires 03/23/09	(36,750)
(100)	UnitedHealth Group, Inc., strike price \$29, expires 02/23/09	(9,250)
(100)	UnitedHealth Group, Inc., strike price \$31, expires 03/23/09	(8,500)
(90)	Vertex Pharmaceuticals, Inc., strike price \$35, expires 02/23/09	(9,900)
(150)	Vertex Pharmaceuticals, Inc., strike price \$40, expires 04/20/09	(21,000)
(100)	Wyeth, strike price \$42.50, expires 03/23/09	(15,250)
(100)	Wyeth, strike price \$42.50, expires 04/20/09	(20,500)
(150)	Wyeth, strike price \$45, expires 02/23/09	(1,875)
(100)	Wyeth, strike price \$45, expires 04/20/09	(8,750)

Total Exchange-Traded Call Options Written	(1,351,350)
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Exchange-Traded Put Options Written (0.1)%

(75)	Abbott Laboratories, strike price \$50, expires 02/23/09	(1,687)
(20)	Alcon, Inc., strike price \$80, expires 02/23/09	(3,500)

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Schedule of Investments (continued)

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

Contracts	Options Written	Value
Exchange-Traded Put Options Written (cont d)		
(110)	Amedisys, Inc., strike price \$40, expires 02/23/09	\$ (22,000)
(310)	Amgen, Inc., strike price \$50, expires 02/23/09	(9,455)
(400)	Amgen, Inc., strike price \$52.50, expires 02/23/09	(29,200)
(50)	Becton Dickinson & Co., strike price \$60, expires 02/23/09	(750)
(110)	CVS Caremark Corp., strike price \$25, expires 02/23/09	(5,500)
(100)	Genentech, Inc., strike price \$75, expires 02/23/09	(6,500)
(195)	Genzyme Corp., strike price \$62.50, expires 02/23/09	(11,212)
(75)	Laboratory Corp. of America Holdings, strike price \$60, expires 02/23/09	(18,938)
(75)	Medtronic, Inc., strike price \$30, expires 02/23/09	(2,625)
(90)	UnitedHealth Group, Inc., strike price \$27, expires 02/23/09	(6,975)
(150)	Vertex Pharmaceuticals, Inc., strike price \$25, expires 03/23/09	(8,625)
Total Exchange-Traded Put Options Written		(126,967)
Over-the-Counter Call Options Written (0.1)%		
(25,000)	Amgen, Inc., strike price \$62.50, expires 02/20/09, broker Citigroup Global Markets	(1,703)
(9,000)	AstraZeneca Plc, strike price 29.74 GBP, expires 03/31/09, broker Morgan Stanley & Co., Inc.	(7,271)
(200)	Fresenius Medical Care AG & Co. KGaA, strike price 37 EUR, expires 03/20/09, broker UBS Securities LLC	(12,286)
(10,000)	Novartis AG (ADR), strike price \$47.54, expires 03/20/09, broker UBS Securities LLC	(1,248)
(50,000)	Pfizer, Inc., strike price \$19.05, expires 02/20/09, broker Deutsche Bank Securities	(414)
(150)	Roche Holding Ltd., strike price 175 CHF, expires 02/20/09, broker Morgan Stanley & Co., Inc.	(14,171)
(7,000)	Sanofi-Aventis SA, strike price 47 EUR, expires 02/16/09, broker Citigroup Global Markets	(4,800)
(12,000)	Smith & Nephew Plc, strike price 5.35 GBP, expires 04/14/09, broker Deutsche Bank Securities	(4,330)
(20,000)	Wyeth, strike price \$39.04, expires 02/20/09, broker UBS Securities LLC	(78,600)
Total Over-the-Counter Call Options Written		(124,823)
Over-the-Counter Put Options Written (0.0)%		
(75)	Fresenius Medical Care AG & Co. KGaA, strike price 33 EUR, expires 02/20/09, broker Morgan Stanley & Co., Inc.	(2,214)
(125)	Roche Holding Ltd., strike price 160 CHF, expires 02/20/09, broker Morgan Stanley & Co., Inc.	(43,540)
Total Over-the-Counter Put Options Written		(45,754)
Total Options Written (Premiums Received \$2,363,430) (1.0)%		(1,648,894)
Total investments net of outstanding options written 96.7%		168,616,570
Other Assets in Excess of Liabilities 3.3%		5,822,804
Net Assets 100.0%		\$ 174,439,374

* The cost and unrealized appreciation (depreciation) of investments as of January 31, 2009, as computed for federal income tax purposes, were as follows:

Aggregate cost	\$	177,737,124
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Gross unrealized appreciation	\$	8,533,416
Gross unrealized depreciation		(16,005,076)
Net unrealized depreciation	\$	(7,471,660)

- (a) Non-income producing security.
- (b) Security, or a portion thereof, pledged as collateral for outstanding options written.
- (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	Income
BlackRock Liquidity Funds, TempFund	16,274,834	\$ 12,909
BlackRock Liquidity Series, LLC, Money Market Series	(2,226,500)**	\$ 1,199

** Represents net sale cost.

Forward foreign exchange contracts as of January 31, 2009 were as follows:

Currency Purchased	Currency Sold	Settlement Date	Unrealized Appreciation (Depreciation)
AUD 297,000	USD 198,937	2/02/09	\$ (10,223)
GBP 78,000	USD 112,406	2/03/09	626
USD 6,557	EUR 5,000	2/02/09	155
Total			\$ (9,442)

KEY TO ABBREVIATIONS

ADR	American Depositary Receipt
AUD	Australian Dollar
CHF	Swiss Franc
EUR	Euro
GBP	British Pound
USD	U.S. Dollar

Effective November 1, 2008, the Trust adopted Financial Accounting Standards Board Statement of Financial Accounting Standards No. 157, Fair Value Measurements (FAS 157). FAS 157 clarifies the definition of fair value, establishes a framework for measuring fair values and requires additional disclosures about the use of fair value measurements. Various inputs are used in determining the fair value of investments, which are as follows:

Level 1 - price quotations in active markets/exchanges for identical securities

Schedule of Investments (continued)**BlackRock Health Sciences Trust (BME)**
(Percentages shown are based on Net Assets)

Level 2 - other observable inputs (including, but not limited to: quoted prices for 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 circumstance, to the extent observable inputs are not available (including the Trust's own assumption used in determining the fair value of investments)

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 other significant accounting policies, please refer to the Trust's most recent financial statements as contained in its annual report.

The following table summarizes the inputs used as of January 31, 2009 in determining the fair valuation of the Trust's investments:

Valuation Inputs	Investments in Securities		Other Financial Instruments**	
	Assets		Assets	Liabilities
Level 1	\$	157,083,839	\$	\$ (1,478,317)
Level 2		13,181,625	781	(180,800)
Level 3				
Total	\$	170,265,464	\$ 781	\$ (1,659,117)

** Other financial instruments are options and forward foreign exchange contracts.

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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 13(a)-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: March 25, 2009

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: March 25, 2009

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

Date: March 25, 2009
