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

FORM 11-K

(Mark One)

**ANNUAL REPORT PURSUANT TO SECTION 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2010

OR

**TRANSITION REPORT PURSUANT TO SECTION 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ____ to ____

Commission File Number: 1-31312

MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
(Full title of the plan)

MEDCO HEALTH SOLUTIONS, INC.
(Name of issuer of the securities held pursuant to the plan)

100 Parsons Pond Drive, Franklin Lakes, NJ
(Address of principal executive offices)

07417-2603
(Zip Code)

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
ANNUAL REPORT ON FORM 11-K**

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Report of Independent Registered Public Accounting Firm

To the Participants and Administrator of
Medco Health Solutions, Inc. 401(k) Savings Plan:

We have audited the accompanying statements of net assets available for benefits of Medco Health Solutions, Inc. 401(k) Savings Plan (the "Plan") as of December 31, 2010 and 2009, and the related statement of changes in net assets available for benefits for the year ended December 31, 2010. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of Medco Health Solutions, Inc. 401(k) Savings Plan as of December 31, 2010 and 2009, and the changes in net assets available for benefits for the year ended December 31, 2010, in conformity with accounting principles generally accepted in the United States of America.

Our audits were performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental Schedule of Assets (Held at End of Year) as of December 31, 2010 is presented for the purpose of additional analysis and is not a required part of the 2010 basic financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This supplemental schedule is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in the audit of the 2010 basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the 2010 basic financial statements taken as a whole.

J.H. Cohn LLP

Roseland, New Jersey
June 17, 2011

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS**

| ASSETS | December 31, 2010 | December 31, 2009 |
|--|------------------------------|------------------------------|
| Investments at fair value | <u>\$ 1,136,629,871</u> | <u>\$ 957,690,027</u> |
| Receivables: | | |
| Employer contributions | 334,450 | 346,488 |
| Participant contributions | 699,798 | 660,548 |
| Notes receivable from participants | <u>33,472,295</u> | <u>27,707,169</u> |
| Total receivables | <u>34,506,543</u> | <u>28,714,205</u> |
| Net assets available for benefits | <u>\$ 1,171,136,414</u> | <u>\$ 986,404,232</u> |

The accompanying notes are an integral part of these financial statements.

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS**

| | <u>Year Ended December 31, 2010</u> |
|---|---|
| Additions to net assets attributed to: | |
| Investment income: | |
| Net appreciation in fair value of investments | \$ 91,827,979 |
| Dividends and interest | 234,424 |
| Total investment income..... | <u>92,062,403</u> |
| | |
| Interest income on notes receivable from participants | <u>1,487,996</u> |
| | |
| Contributions: | |
| By participants | 94,870,336 |
| By employer | 42,131,369 |
| Total contributions | <u>137,001,705</u> |
| | |
| Deductions from net assets attributed to: | |
| Benefits paid to participants | <u>(45,819,922)</u> |
| Total deductions | <u>(45,819,922)</u> |
| | |
| Net increase | 184,732,182 |
| | |
| Net assets available for benefits for 2010: | |
| Beginning of year | 986,404,232 |
| End of year | <u>\$ 1,171,136,414</u> |

The accompanying notes are an integral part of this financial statement.

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
NOTES TO FINANCIAL STATEMENTS**

1. DESCRIPTION OF THE PLAN

The following description of the Medco Health Solutions, Inc. 401(k) Savings Plan (the "Plan") provides only general information. More complete information regarding the Plan's provisions may be found in the Plan document.

General

The Plan is a defined contribution plan covering substantially all employees of Medco Health Solutions, Inc. ("Medco" or the "Company"), including certain subsidiaries. Effective January 1, 2010, CCS Infusion Management, L.L.C. and certain of its subsidiaries ("CCS," an indirect, wholly-owned subsidiary of Medco) became a participating employer in the Plan. Assets of the CCS 401(k) Plan in the amount of \$24,394,127 were transferred into the Plan after the close of business on December 31, 2009 and are reflected in the accompanying statements of net assets available for benefits as of December 31, 2010 and December 31, 2009. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA").

The Plan is administered by the Employee Benefits Committee ("EBC"), which is appointed by the Board of Directors (the "Board") of the Company. The Retirement Investment Committee, also appointed by the Board, is the named fiduciary responsible for selecting and monitoring the investment options offered under the Plan. Fidelity Management Trust Company ("Fidelity") is the trustee and a custodian of the Plan, and Principal Life Insurance Company ("Principal Life") is a custodian of the Plan.

Contributions

The Plan's limit on employee contributions is 50% of eligible compensation, subject to certain limitations under the Internal Revenue Code ("IRC"). Employee contributions were limited to \$16,500 in pretax contributions for both 2009 and 2010, and the limit remains at \$16,500 for 2011. Participants may direct the investment of their contributions into various investment options offered by the Plan, with a minimum investment of 1% in any investment option. Participants may also contribute amounts representing distributions from other qualified defined benefit or defined contribution plans. The Company matches 100% of employee contributions for the first 3% of base compensation deferred and 50% of employee contributions for the next 3% deferred. Effective March 1, 2011, under the Medco 401(k) Plan, amended and restated as of January 1, 2011, Medco matches 100% of participant's pre-tax contributions up to 6% of base pay. Participants direct the investment of all Company matching contributions in any of the available investment options. Also, the Economic Growth and Tax Relief Reconciliation Act of 2001 permits "catch-up" contributions that are designed to provide employees age 50 and over with an additional pretax retirement savings opportunity. As such, eligible participants in the Plan were allowed to contribute an additional \$5,500 for both 2009 and 2010, and the catch-up maximum remains at \$5,500 for 2011.

Participant Accounts

Each participant's account is credited with the participant's contribution, the Company's matching contribution and is charged for certain administrative expenses. Investment gains (or losses) are also reflected in the value of each participant's account based on the Plan's investment results.

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
NOTES TO FINANCIAL STATEMENTS**

Vesting

Participants are vested immediately in their contributions plus actual earnings thereon. Participants with active service on or after January 1, 2005, are also immediately vested 100% in Company matching contributions. Prior to January 1, 2005, participant ownership rights in the value of the Company matching contributions were subject to a five-year graduated vesting schedule based on years of service.

Forfeited Accounts

The Company may utilize forfeited non-vested accounts to reduce future Company contributions. At December 31, 2010 and 2009, forfeited accounts totaled \$62,861 and \$70,768, respectively. In 2010 employer contributions were reduced by \$18,510 from forfeited non-vested accounts.

Notes Receivable from Participants

Participants may borrow from their account balances with interest charged at the prime rate plus 1%. Loan terms range from one to five years, or up to 30 years, for the purchase of a primary residence. The minimum loan is \$1,000 and the maximum loan is the lesser of \$50,000 less the highest outstanding loan balance during the one year period prior to the new loan application date, or 50% of the participant's vested account balance less any current outstanding loan balance.

Payment of Benefits

In-service (which include hardship withdrawals) and termination distributions are made throughout the year in accordance with applicable Plan provisions.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Recently Adopted Financial Accounting Standards

Improving Disclosures about Fair Value Measurements

In January 2010, the Financial Accounting Standards Board ("FASB") issued a standard which requires additional disclosure about the amounts of, and reasons for, significant transfers in and out of Level 1 and Level 2 fair value measurements. This standard also clarifies existing disclosure requirements related to the level of disaggregation of fair value measurements for each class of assets and liabilities and disclosures about inputs and valuation techniques used to measure fair value for both recurring and nonrecurring Level 2 and Level 3 measurements. The new disclosures are effective for interim and annual reporting periods beginning after December 15, 2009. In addition, effective for interim and annual periods beginning after December 15, 2010, this standard requires disaggregated information about activity in Level 3 fair value measurements on a gross basis, rather than as one net amount. The adoption of the standard in 2010 did not have a material impact on the Plan's financial statements.

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
NOTES TO FINANCIAL STATEMENTS**

Reporting Loans to Participants by Defined Contribution Pension Plans

In September 2010, the FASB issued a standard which requires that participant loans be classified as notes receivable from participants and measured at their unpaid principal balance plus any accrued but unpaid interest. Under the standard, participant loans are exempt from certain disclosure requirements about fair value and also exempt from certain credit quality disclosures. The Plan adopted this new standard in its December 31, 2010 financial statements and has reclassified participant loans of \$27,707,169 as of December 31, 2009, from investments to notes receivable from participants. The net assets of the Plan were not affected by the adoption of this standard.

Basis of Accounting

The accompanying financial statements are prepared using the accrual basis of accounting. Prior year amounts consisting of participant loans have been reclassified from investments to notes receivable from participants to conform to the current year presentation, in accordance with the recently adopted standard described above.

Use of Estimates

The financial statements are prepared in conformity with accounting principles generally accepted in the United States of America and, accordingly, include amounts that are based on management's best estimates and judgments. Because of the uncertainty inherent in such estimates, actual results could differ from these estimates.

Investment Valuation and Income Recognition

Investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See the section, "*Fair Value Measurements*," below.

Investment income and losses from the Plan includes interest, dividends and net changes in the fair value of investments. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis and dividend income is recorded on the ex-dividend date. Net appreciation (depreciation) in fair value of investments includes the Plan's gains/losses on investments bought and sold, as well as held during the year.

Fair Value Measurements

Fair Value Hierarchy. The inputs used to measure fair value fall into the following hierarchy:

- Level 1: Quoted market prices in active markets for identical assets or liabilities.
- Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
- Level 3: Unobservable inputs reflecting the reporting entity's own assumptions.

The Plan utilizes the best available information in measuring fair value.

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
NOTES TO FINANCIAL STATEMENTS**

The following tables set forth, by level within the fair value hierarchy, the financial assets recorded at fair value on a recurring basis⁽¹⁾:

Plan Fair Value Measurements at December 31, 2010

| Description | Total | Level 1 | Level 2 | Level 3 |
|--------------------------------------|-------------------------------|----------------------------|------------------------|-------------------|
| Medco common stock fund..... | \$ 204,751,140 ⁽²⁾ | \$ 204,751,140 | \$ — | \$ — |
| Money market funds | 180,928,600 | 180,548,179 ⁽³⁾ | 380,421 ⁽⁴⁾ | — |
| Index mutual fund..... | 67,934,033 ⁽³⁾ | 67,934,033 | — | — |
| U.S. large-cap equity fund | 151,905,733 ⁽⁴⁾ | — | 151,905,733 | — |
| U.S. small/mid-cap equity fund | 217,217,775 ⁽⁴⁾ | — | 217,217,775 | — |
| International equity fund..... | 76,467,017 ⁽⁴⁾ | — | 76,467,017 | — |
| Target Date funds..... | 140,824,527 ⁽⁴⁾ | — | 140,824,527 | — |
| Fixed income funds..... | 96,439,791 ⁽⁴⁾ | — | 96,439,791 | — |
| Guaranteed Interest Account..... | 161,255 ⁽⁵⁾ | — | — | 161,255 |
| Totals | \$ 1,136,629,871 | \$ 453,233,352 | \$ 683,235,264 | \$ 161,255 |

Plan Fair Value Measurements at December 31, 2009

| Description | Total | Level 1 | Level 2 | Level 3 |
|---|----------------------------|-----------------------|-----------------------|-------------------|
| Guaranteed Interest Account | \$ 379,495 ⁽⁵⁾ | \$ — | \$ — | \$ 379,495 |
| Common Stock | 197,305,736 ⁽²⁾ | 197,305,736 | — | — |
| Mutual Funds..... | 228,797,618 ⁽³⁾ | 228,797,618 | — | — |
| Common Collective Trusts, Separately Managed Trusts and Mutual Funds | 531,207,178 ⁽⁴⁾ | — | 531,207,178 | — |
| Totals | \$ 957,690,027 | \$ 426,103,354 | \$ 531,207,178 | \$ 379,495 |

⁽¹⁾The table of Plan Fair Value Measurements at December 31, 2010 reflects the January 1, 2010 adoption on a prospective basis of a FASB standard that clarifies disclosure requirements related to the disaggregation of fair value measurements for each class of assets and liabilities.

⁽²⁾Consists of the Medco Common Stock Fund, which is recorded at fair value based on quoted market prices in an active market.

⁽³⁾Consists of shares held in mutual funds traded in an active market, which are valued at the net asset value of shares held by the Plan at year-end.

⁽⁴⁾Consists of the fair value of units held in common collective trust funds, which have no readily available quoted market price but whose unit values are reported by the funds' investment managers, as well as the fair value of funds that are mixtures of separately managed trusts, common collective trusts and mutual funds that are valued at the net asset value calculated by the funds' investment managers.

⁽⁵⁾Represents an investment in the Principal Life guaranteed interest account ("GIC") that was transferred in from the merged CCS 401(k) Plan. The GIC provides for guaranteed principal and interest for a set period of time, and is classified as Level 3 because the measurement of fair value involves unobservable inputs; the fair value is calculated by discounting the related cash flows based on current yields for similar instruments with comparable durations. Subsequent to the transfer in from the merged CCS 401(k) Plan, employees can no longer direct their contributions into the GIC. At December 31, 2009, there were two investments in the GIC account; one of which matured on December 31, 2010 and the funds were transferred into other investment options in 2011, and the second of which remained and is expected to mature and be transferred into other investment options by December 31, 2011.

Notes Receivable from Participants

Notes receivable from participants are measured at their unpaid balance plus any accrued but unpaid interest. Delinquent participant loans are reclassified as distributions based on the terms of the Plan document.

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
NOTES TO FINANCIAL STATEMENTS**

Recording of Benefits

Benefits are recorded when paid.

Risks and Uncertainties

The Plan provides for various investment options in investment securities. Investment securities, in general, are exposed to various risks, such as interest rate, credit risk and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits. See Note 3, "Investments," for further details.

Subsequent Events

The Plan has evaluated subsequent events through June 17, 2011, the date these financial statements were issued, and no subsequent events were noted for disclosure.

3. INVESTMENTS

The Plan's investments are held in custody by Fidelity and Principal Life.

The following presents investments that represent 5% or more of the Plan's net assets available for benefits at fair value as of year-end:

| | December 31, 2010 | December 31, 2009 |
|------------------------------------|------------------------------|------------------------------|
| Medco Common Stock Fund..... | \$ 204,751,140 | \$ 197,305,736 |
| Fidelity Investments as custodian: | | |
| International Stock Fund | 76,467,017 | 66,039,727 |
| US Large Cap Stock Fund..... | 151,905,733 | 126,282,601 |
| US Mid Cap Stock Fund | 96,023,618 | 66,715,377 |
| US Small Cap Stock Fund..... | 121,189,487 | 91,635,999 |
| Money Market Fund..... | 180,548,179 | 176,686,407 |
| S&P 500 Index Fund | 67,934,033 | 52,111,211 |
| Bond Fund | 95,895,417 | 79,343,524 |

During 2010, the Plan's investments, including gains (losses) on investments bought and sold, as well as held during the year, appreciated in value by \$91,827,979 and include the following components, classified by the underlying holdings:

| | December 31, 2010 |
|--|------------------------------|
| Mutual funds and commingled and separately managed trusts..... | \$ 79,792,306 |
| Medco common stock fund..... | 12,035,673 |
| Net appreciation in fair value of investments | \$ 91,827,979 |

**MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
NOTES TO FINANCIAL STATEMENTS**

4. RELATED PARTY TRANSACTIONS

Certain Plan investments are managed by Fidelity and Principal Life. Because Fidelity is the trustee and a custodian and Principal Life is a custodian of the Plan, these transactions qualify as exempt party-in-interest transactions.

Section 3(14) of ERISA defines a party-in-interest to include, among others, fiduciaries or employees of the Plan, any person who provides services to the Plan or an employer whose employees are covered by the Plan. Medco is a party-in-interest to the Plan under this definition. Therefore, Medco Common Stock Fund transactions qualify as exempt party-in-interest transactions.

5. PLAN TERMINATION

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA.

6. TAX STATUS

The trust established under the Plan is qualified under the IRC as exempt from Federal income taxes and the Plan received a favorable determination letter from the Internal Revenue Service ("IRS") on August 20, 2003 indicating that it had been designed in accordance with applicable sections of the IRC. The Plan has been amended since receiving the determination letter. The Plan's administrator and the Plan's counsel believe that the Plan is currently designed and being operated in compliance with the applicable requirements of the IRC in all material respects. Therefore, no provision for income taxes has been included in the Plan's financial statements.

As of December 31, 2010, there are no uncertain tax positions taken or expected to be taken that would require recognition of a liability or disclosure in the financial statements. The Plan is not currently under audit by any taxing authority and the Company is unaware of any taxing authorities' intent to audit. The Plan was last subject to an IRS compliance audit in 2007 and has received a compliance letter for periods prior to 2008.

MEDCO HEALTH SOLUTIONS, INC. 401(k) SAVINGS PLAN
EIN# 22-3461740 Plan# 003
Schedule H Line 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)
December 31, 2010

| (a) | (b) Identity of Issue, Borrower, Lessor or Similar Party | (c) Description of Investment Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value | (d) Cost** | (e) Current Value |
|-----|---|---|------------|-------------------------|
| * | Medco Common Stock Fund | Common Stock | | \$ 204,751,140 |
| * | Fidelity Investments as custodian: | | | |
| | International Stock Fund | Mutual funds and commingled and separately managed trusts | | 76,467,017 |
| | US Large Cap Stock Fund | Separately managed trusts | | 151,905,733 |
| | US Mid Cap Stock Fund | Commingled trust | | 96,023,618 |
| | US Small Cap Stock Fund | Mutual funds and commingled trust | | 121,189,487 |
| | Money Market Fund | Mutual fund | | 180,548,179 |
| | S&P 500 Index Fund | Mutual fund | | 67,934,033 |
| | Bond Fund | Mutual fund and commingled trust | | 95,895,417 |
| | Stable Value Fund | Common Collective Trust | | 540,113 |
| * | Principal Life Insurance Company | | | |
| | Guaranteed Interest Account 5-Year Compound | Guaranteed Interest Account (3.95% to 4.05%) | | 161,255 |
| | Money Market Sep Account | Pooled Separate Account | | 380,421 |
| | Bond and Mortgage Sep Account | Pooled Separate Account | | 4,260 |
| | MidCap Blend Separate Account | Commingled trust | | 4,671 |
| | BlackRock Institutional Trust Company: | | | |
| | LifePath Index 2015 Fund J | Commingled trust | | 15,602,235 |
| | LifePath Index 2020 Fund J | Commingled trust | | 22,069,553 |
| | LifePath Index 2025 Fund J | Commingled trust | | 24,517,858 |
| | LifePath Index 2030 Fund J | Commingled trust | | 23,839,081 |
| | LifePath Index 2035 Fund J | Commingled trust | | 22,242,970 |
| | LifePath Index 2040 Fund J | Commingled trust | | 14,292,955 |
| | LifePath Index 2045 Fund J | Commingled trust | | 6,084,533 |
| | LifePath Index 2050 Fund J | Commingled trust | | 2,840,297 |
| | LifePath Index Retirement Fund J | Commingled trust | | 9,335,043 |
| * | Participants' Loans | Interest rates ranging from 4.25% to 10.5% and with maturities through 2040 | | 33,472,295 |
| | | Total | | <u>\$ 1,170,102,166</u> |

* Denotes a party-in-interest to the Plan.

** Participants may direct the investment of their contributions into the various investment options. Cost is not required for participant-directed investments.

Signature

Pursuant to the requirements of the Securities Exchange Act of 1934, the members of the Employee Benefits Committee have duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: June 17, 2011

**MEDCO HEALTH SOLUTIONS, INC.
401(k) SAVINGS PLAN**

By: 

Name: Richard J. Rubino

Title: Senior Vice President, Finance and
Chief Financial Officer
Medco Health Solutions, Inc.
Member, Employee Benefits
Committee

Exhibit Index

| <u>Number</u> | <u>Description</u> |
|---------------|--|
| 23.1 | Consent of Independent Registered Public Accounting Firm |

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 filed on August 13, 2003 (Commission File No. 333-107936) of Medco Health Solutions, Inc. of our report dated June 17, 2011 relating to the statements of net assets available for benefits as of December 31, 2010 and 2009 and the related statement of changes in net assets available for benefits for the year ended December 31, 2010 of Medco Health Solutions, Inc. 401(k) Savings Plan, which appear in this Annual Report on Form 11-K.

J.H. Cohn LLP

Roseland, New Jersey
June 17, 2011