Medical Expenditure Panel Survey

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Trends in Hormone Replacement Therapy Drugs Utilization and Expenditures for Adult Women in the U.S. Civilian Noninstitutionalized Population, 2001-2008

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Introduction

In July 2002, a major clinical trial of hormone replacement therapy on the risks and benefits of combined estrogen and progestin in healthy menopausal women conducted by the National Heart, Lung, and Blood Institute of the National Institutes of Health (NHLBI, NIH) was stopped early citing an increased risk of invasive breast cancer.[1] This Statistical Brief examines the use and expenditures by adult women for hormone replacement drugs pre and post the halting of the government study.

This Brief presents trends in utilization and expenditures for outpatient prescription hormone replacement therapy drugs for the years 2001–2008. The estimates are for adult women age 18 and older in the U.S. civilian noninstitutionalized population and are derived from the 2001–2008 Household Component of the Medical Expenditure Panel Survey (MEPS-HC). For outpatient prescription hormone replacement therapy drugs, the Brief compares 2001–2008 total expenditures, total number of prescriptions, and total number of adult women obtaining at least one prescription. It also compares proportions of the adult female population obtaining a prescription for at least one hormone replacement therapy drug by age, race/ethnicity, insurance status, and poverty status.

Only prescription medicines in an outpatient setting are included in these estimates. Prescription medicines administered in an inpatient setting or in a clinic or physician's office are excluded. Expenditure estimates are presented in real dollars; estimates for 2001–2007 were inflated to 2008 dollars based on the rate of increase in the GDP Price Index (http://www.meps.ahrq.gov/mepsweb/about_meps/Price_Index.shtml). All differences discussed in the text are statistically significant at the 0.05 level.

Findings

When comparing 2001 through 2008, MEPS estimates showed a decrease in total inflation adjusted expenditures for hormone replacement drugs by adult women each year except from 2004 to 2005 and 2007 to 2008. Total expenses for hormone replacement therapy drugs by adult women decreased 15 percent when comparing the years 2001 ($5.3 billion) and 2002 ($4.5 billion) and decreased 40 percent when comparing 2001 ($5.3 billion) and 2003 ($3.2 billion). Over the eight year span from 2001–2008, total expenses on hormone replacement therapy drugs decreased 62 percent (decreasing from $5.3 billion to $2.0 billion) (figure 1).

Highlights

- From 2001 to 2008, inflation adjusted total expenditures for outpatient prescription hormone replacement therapy drugs by adult women decreased more than 60 percent, decreasing from $5.3 billion to $2.0 billion.
- Between 2001 and 2008 utilization of outpatient prescription hormone replacement therapy drugs by adult women decreased more than 70 percent, from 112.2 million prescriptions to 31.8 million prescriptions.
- From 2001 to 2008, the number of adult women obtaining one or more outpatient prescription hormone replacement therapy drugs decreased from 17.9 million to 5.8 million.
- Between 2001 and 2008, the proportion of adult women obtaining at least one outpatient prescription hormone replacement therapy drug decreased for all age categories: ages 18-49 (from 1.7 percent to 0.4 percent), ages 50-64 (from 3.1 percent to 1.0 percent), and age 65 and older (from 1.5 percent to 0.5 percent).
- The proportion of adult women obtaining one or more outpatient prescription hormone replacement therapy drugs decreased for the following poverty status categories between 2001 and 2008: poor/near poor/ low income (from 1.4 to 0.4 percent) and middle/high income (from 4.8 percent to 1.5 percent).

[1] NIH News Release, NHLBI stops trial of estrogen plus progestin due to increased breast cancer risk, lack of overall benefit; July 9, 2002.

When comparing 2001 through 2008, MEPS estimates showed a decrease in total prescriptions for hormone replacement drugs by adult females each year except from 2004 to 2005, 2006 to 2007, and 2007 to 2008. Total prescriptions for hormone replacement therapy drugs by adult women decreased 17 percent when comparing the years 2001 (112.2 million prescriptions) and 2002 (93.1 million prescriptions) and decreased 45 percent when comparing 2001 (112.2 million prescriptions) and 2003 (61.3 million prescriptions). Over the eight year span from 2001−2008, total expenses on hormone replacement therapy drugs decreased 72 percent (decreasing from 112.2 million prescriptions to 31.8 million prescriptions) (figure 2).

When comparing 2001 through 2008, MEPS estimates showed a decrease in the total number of adult women obtaining at least one prescription for a hormone replacement drug each year except from 2004 to 2005, 2006 to 2007, and 2007 to 2008. The number of adult women obtaining at least one prescription for a hormone replacement therapy drug decreased 9 percent when comparing the years 2001 (17.9 million adult women) and 2002 (16.3 million adult women) and decreased 37 percent when comparing 2001 (17.9 million adult women) and 2003 (11.2 million adult women). During the eight year span from 2001−2008, the total number of adult women obtaining at least one prescription for a hormone replacement therapy drug decreased 68 percent (decreasing from 17.9 million adult women to 5.8 million adult women) (figure 3).

For the years 2001 and 2008, when comparing the proportion of adult women purchasing one or more prescription hormone replacement therapy drugs by the following age categories: ages 18−49 (1.7 percent to 0.4 percent), ages 50−64 (3.1 percent to 1.0 percent), and age 65 and older (1.5 percent to 0.5 percent), all age groups showed declines (figure 4).

When comparing the years 2001 and 2008 for different racial and ethnic groups, the proportion of adult women obtaining at least one prescription hormone replacement therapy drug also showed declines, however, a negligible proportion of black non-Hispanic and Hispanic women had a prescription in either year. For white non-Hispanics, black non-Hispanics, and Hispanics the proportions decreased from 5.4 percent to 1.7 percent, 0.4 percent to 0.1 percent, and 0.3 percent to 0.1 percent, respectively (figure 5).

When comparing 2001 and 2008, there was a decrease in the proportion of adult women obtaining at least one hormone replacement therapy drug for all insurance status categories as well: for adult women with any private insurance (from 5.1 percent to 1.5 percent), for adult women with public only insurance (from 0.9 percent to 0.3 percent) and for adult women that were uninsured (from 0.3 percent to 0.1 percent). It was rare for uninsured adult women to have obtained a hormone replacement drug in either year (figure 6).

For the years 2001 and 2008, decreases were also evident when comparing the proportion of adult women obtaining at least one prescription hormone replacement therapy drug by poverty status: for the poor/near poor/low income adult women, the proportion fell from 1.4 percent to 0.4 percent, and for those adult women with middle/high income, the proportion fell from 4.8 percent to 1.5 percent (figure 7).

Data Source

The estimates shown in this Statistical Brief are based on data from MEPS HC-068: Multum Lexicon Addendum Files, MEPS HC-060: 2001 Full Year Consolidated Data File, MEPS HC-121: 2008 Full Year Consolidated Data File, MEPS HC-059A: 2001 Prescribed Medicines File, MEPS HC-067A: 2002 Prescribed Medicines File, MEPS HC-077A: 2003 Prescribed Medicines File, MEPS HC-085A: 2004 Prescribed Medicines File, MEPS HC-094A: 2005 Prescribed Medicines File, MEPS HC-102A: 2006 Prescribed Medicines File, MEPS HC-110A: 2007 Prescribed Medicines File, and MEPS HC-118A: 2008 Prescribed Medicines File.

Definitions

Utilization and expenditures
Utilization was defined as purchasing or obtaining hormone replacement therapy drugs prescribed in the year of interest. Refills as well as original prescriptions are included in expenditure and utilization estimates. Expenditures include the total direct payments from all sources to pharmacies for prescriptions reported by respondents in the MEPS-HC. Expenditures are in real dollars; estimates for 2001−2007 were adjusted to 2008 dollars based on the GDP Price Index (http://www.meps.ahrq.gov/mepsweb/about_meps/Price_Index.shtml).

Therapeutic classifications
Therapeutic class and subclass were assigned to MEPS prescribed medicines using Multum Lexicon variables from Cerner Multum, Inc. MEPS prescribed medicines files were linked to the Multum Lexicon database to obtain therapeutic class and subclass variables. The first choice in the linking algorithm was chosen when assigning therapeutic classes and subclasses. For all years of data, the following was used to define hormone replacement therapy drugs: therapeutic class: Hormones; subclass: Sex Hormones; and sub subclasses: Estrogens, Progestins and Sex Hormone Combinations. For additional information on these and other Multum Lexicon variables, please refer to the Multum Web site.

Age
Age is the last available age for the sampled person. For most persons, this was their age at the end of the year. For this report, adult women age 18 and older were broken down into the following age categories: 18−49, 50−64, and 65 and older.

Racial and ethnic classifications
Classification by race and ethnicity was based on information reported for each family member. Respondents were asked if each family members race was best described as American Indian, Alaska Native, Asian or Pacific Islander, black, white, or other. They also were asked if each family member's main national origin or ancestry was Puerto Rican; Cuban; Mexican, Mexicano, Mexican American, or Chicano; other Latin American; or other Spanish. All persons whose main national origin or ancestry was reported in one of these Hispanic groups, regardless of racial background, were classified as Hispanic. Since the Hispanic grouping can include black Hispanic, white Hispanic, Asian and Pacific Islanders Hispanic, and other Hispanic, the race categories of black, white, Asian and Pacific Islanders, and other do not include Hispanic. Beginning in 2002, MEPS respondents were allowed to report multiple races, and these persons were included in the other non-Hispanic category. As a result, there was a slight increase in the percentage of persons classified in this category in 2002 compared with prior years.

Health insurance status
Individuals were classified into the following three insurance categories:

Any private health insurance: Individuals with insurance that provides coverage for hospital and physician care at any time during the year, other than Medicare, Medicaid, or other public hospital/physician coverage are classified as having private insurance. Medigap coverage is included in this category. Persons with TRICARE are also included. Insurance that provides coverage for a single service only, such as dental or vision, is not included.

Public coverage only: Individuals are considered to have public coverage only if they met both of the following criteria:

- They were not covered by private insurance at any time during the year.
- They were covered by one of the following public programs at any point during the year: Medicare, Medicaid, or other public hospital/physician coverage.

Uninsured: The uninsured are defined as persons not covered by Medicare, TRICARE, Medicaid, other public hospital/physician programs, or private hospital/physician insurance at any time during 2001 or 2008. Individuals covered only by noncomprehensive state specific programs (e.g., Maryland Kidney Disease Program, Colorado Child Health Plan) or private single-service plans (e.g., coverage for

dental or vision care only, coverage for accidents or specific diseases) are not considered to be insured.

Poverty status
Sample persons were classified according to the total yearly income of their family. Within a household, all people related by blood, marriage, or adoption were considered to be a family. Poverty status categories are defined by the ratio of family income to the federal income thresholds, which control for family size and age of the head of family. Poverty status was based on annual income in 2001 and 2008.

Poverty status categories are defined as follows:

- Poor: Persons in families with income less than or equal to the poverty line, including those who had negative income.
- Near poor: Persons in families with income over the poverty line through 125 percent of the poverty line.
- Low income: Persons in families with income over 125 percent through 200 percent of the poverty line.
- Middle income: Persons in families with income over 200 percent through 400 percent of the poverty line.
- High income: Persons in families with income over 400 percent of the poverty line.

For this report the categories poor, near poor, and low income were combined into one category, and middle income and high income were combined into one category.

About MEPS-HC

MEPS-HC is a nationally representative longitudinal survey that collects detailed information on health care utilization and expenditures, health insurance, and health status, as well as a wide variety of social, demographic, and economic characteristics for the U.S. civilian noninstitutionalized population. It is cosponsored by the Agency for Healthcare Research and Quality and the National Center for Health Statistics.

MEPS expenditure data are derived from both the Medical Provider Component (MPC) and Household Component (HC). MPC data are generally used for hospital-based events (e. g., inpatient stays, emergency room visits, and outpatient department visits), prescribed medicine purchases, and home health agency care. Office-based physician care estimates use a mix of HC and MPC data while estimates for non-physician office visits, dental and vision services, other medical equipment and services, and independent provider home health care services are based on HC provided data. Details on the estimation process can be found in Machlin, S. R. and Dougherty, D. D. *Overview of Methodology for Imputing Missing Expenditure Data in the Medical Expenditure Panel Survey*. Methodology Report No. 19. March 2007. Agency for Healthcare Research and Quality, Rockville, MD. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr19/mr19.pdf

For more information about MEPS, call the MEPS information coordinator at AHRQ (301) 427-1656 or visit the MEPS Web site at http://www.meps.ahrq.gov/.

References

For a detailed description of the MEPS-HC survey design, sample design, and methods used to minimize sources of nonsampling error, see the following publications:

Cohen, J. *Design and Methods of the Medical Expenditure Panel Survey Household Component*. MEPS Methodology Report No. 1. AHCPR Pub. No. 97-0026. Rockville, MD. Agency for Health Care Policy and Research, 2001. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.pdf

Cohen, S. *Sample Design of the 1996 Medical Expenditure Panel Survey Household Component*. MEPS Methodology Report No. 2. AHCPR Pub. No. 97-0027. Rockville, MD. Agency for Health Care Policy and Research, 2001. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr2/mr2.pdf

Cohen, S. Design Strategies and Innovations in the Medical Expenditure Panel Survey. *Medical Care*, July 2003: 41(7) Supplement: III-5–III-12.

Ezzati-Rice, T.M., Rohde, F., Greenblatt, J. *Sample Design of the Medical Expenditure Panel Survey Household Component, 1998–2008*. Methodology Report No. 22. March 2008. Agency for Healthcare Research and Quality, Rockville, MD. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr22/mr22.pdf

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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other MEPS data and tools and to share suggestions on how MEPS products might be enhanced to further meet your needs. Please e-mail us at MEPSProjectDirector@ahrq.hhs.gov or send a letter to the address below:

Steven B. Cohen, PhD, Director
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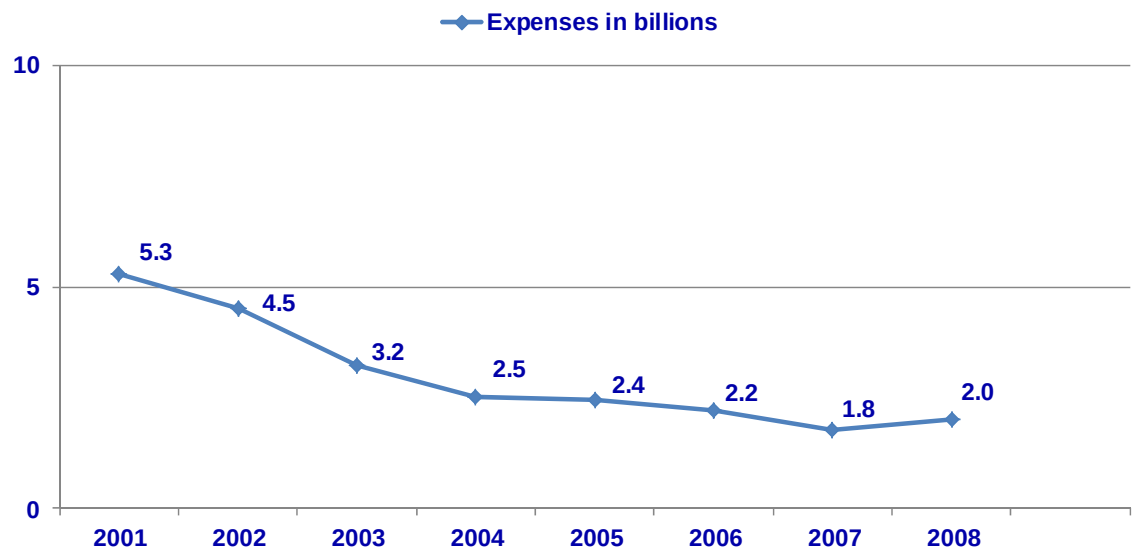
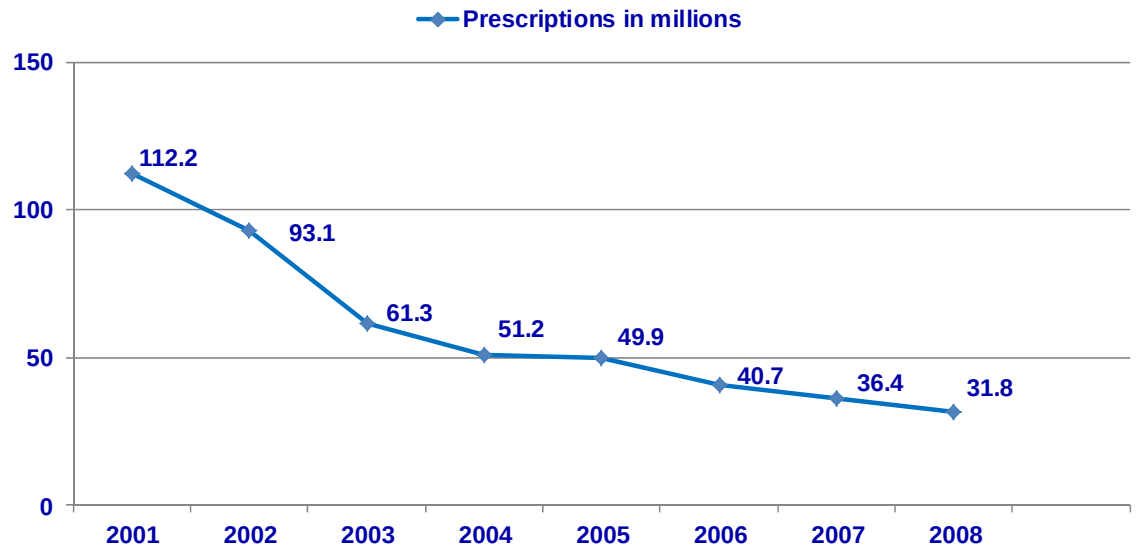
Rockville, MD 20850

Figure 1. Total expenses for adult women for prescribed hormone replacement therapy drugs, 2001–2008 (adjusted to 2008 dollars)



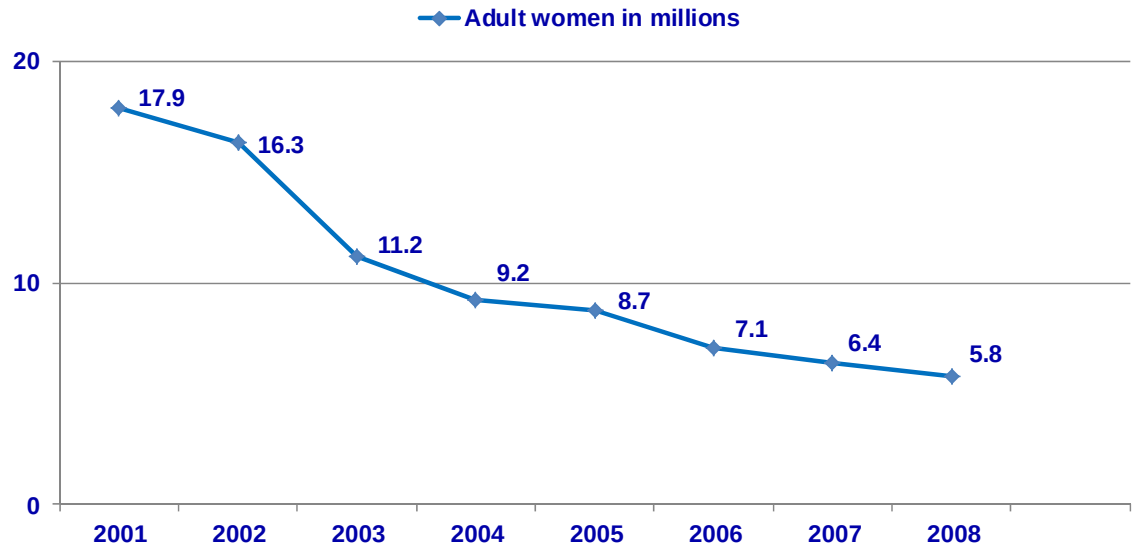
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2001–2008

Figure 2. Total number of prescriptions of prescribed hormone replacement therapy drugs for adult women, 2001–2008



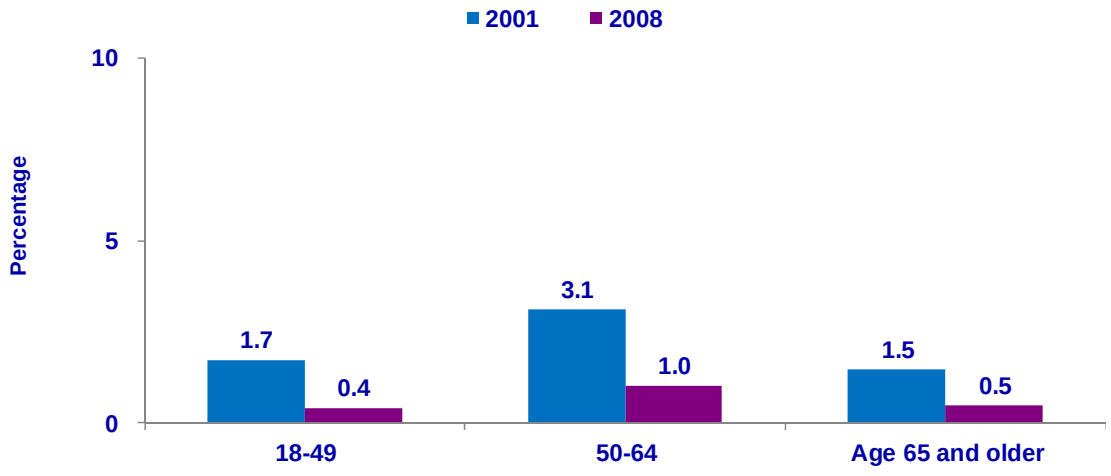
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2001–2008

Figure 3. Total number of adult women using at least one prescribed hormone replacement therapy drug, 2001–2008



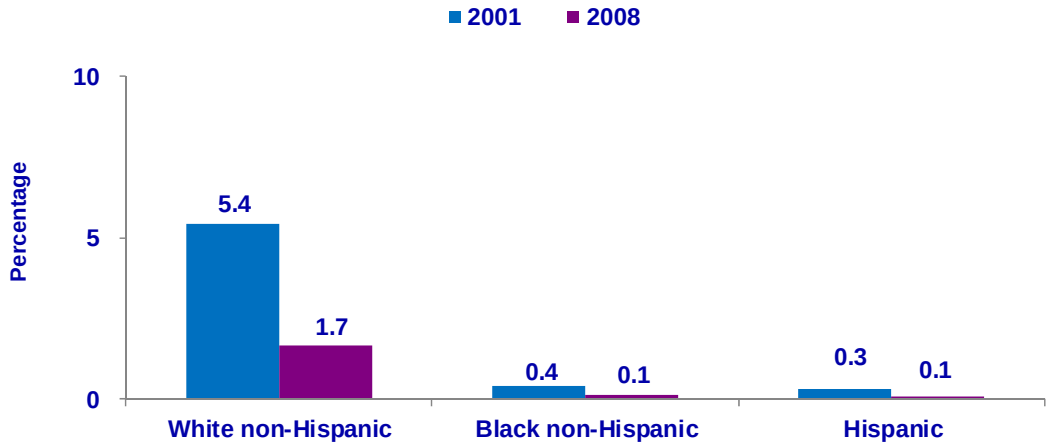
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2001–2008

Figure 4. Percentage of adult women with at least one prescription hormone replacement therapy drug prescription, by age, 2001 and 2008



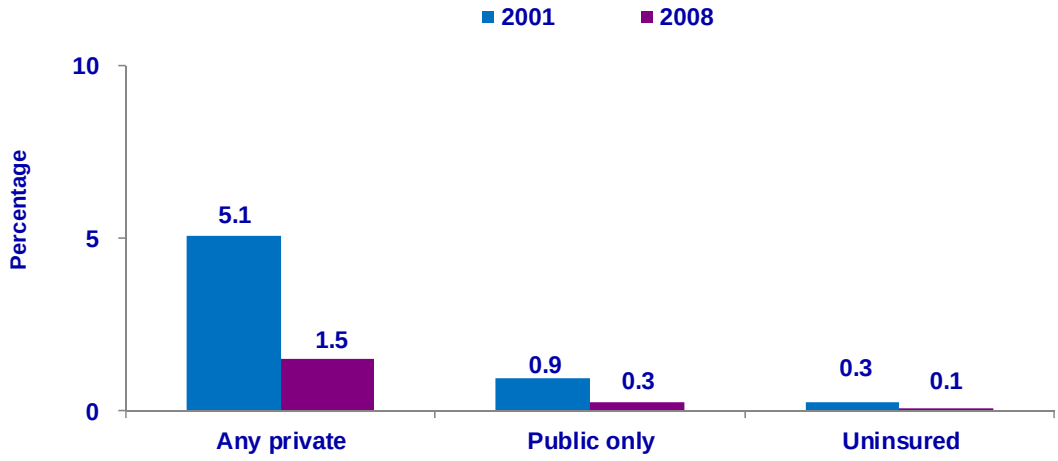
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2001 and 2008

Figure 5. Percentage of adult women with at least one prescription hormone replacement therapy drug prescription, by race/ethnicity, 2001 and 2008



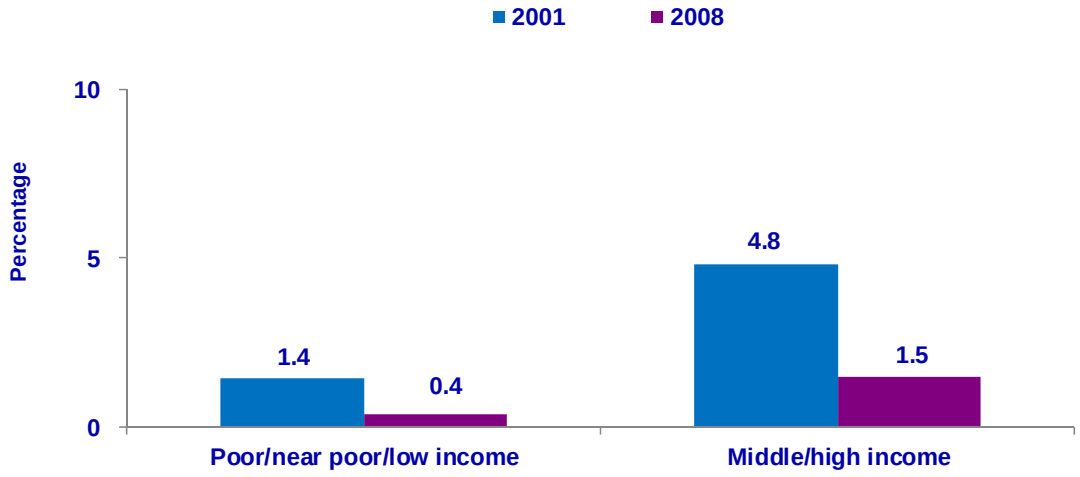
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2001 and 2008

Figure 6. Percentage of adult women with at least one prescription hormone replacement therapy drug prescription, by insurance status, 2001 and 2008



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2001 and 2008

Figure 7. Percentage of adult women with at least one prescription hormone replacement therapy drug prescription, by poverty status, 2001 and 2008



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2001 and 2008