Medical Expenditure Panel Survey

Agency for Healthcare Research and Quality

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Trends in Utilization and Expenditures of Prescribed Drugs Treating Diabetes, Hypertension, and High Cholesterol for Persons under Age 40 in the U.S. Civilian Noninstitutionalized Population, 2000 and 2010

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Introduction

Rising prescribed medicine costs and trends associated with those increases are an area of particular interest to U.S. policymakers and consumers of health care. Analyzing trends in total prescription drug costs by therapeutic subclasses for certain subpopulations provides decision makers and the public with a clearer understanding of current circumstances with respect to medicine use and expenses, and what to expect in the future. This Statistical Brief provides trends for three therapeutic subclasses of prescribed drugs for the population under age 40—anti-diabetics, anti-hypertensives, and statins—all of which treat conditions often associated with aging and older populations.

This Brief presents trends in utilization and expenditures for outpatient prescription anti-diabetics, anti-hypertensives, and statins for persons under age 40 in the U.S. civilian noninstitutionalized population for the years 2000 and 2010. The estimates are derived from the 2000 and 2010 Household Component of the Medical Expenditure Panel Survey (MEPS-HC). The Brief examines trends in the number of persons obtaining at least one prescription, total expenditures, and total number of prescriptions, as well as average annual cost per person and average cost per prescription.

Only prescriptions purchased or obtained 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 2000 were inflated to 2010 dollars based on 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

Comparing 2000 with 2010, MEPS estimates showed an increase in the total number of people (as well as the proportion of the population) under age 40 in the U.S. civilian noninstitutionalized population obtaining at least one anti-diabetic or anti-hypertensive. The number of persons obtaining at least one anti-diabetic rose from 1.2 million (0.8 percent of the 159.6 million people under age 40 in the 2000 total population) to 1.9 million people (1.1 percent of the 165.7 million people under age 40 in the 2010 total population); and the number of persons obtaining at least one anti-hypertensive rose from 3.5 million (2.2 percent of the 159.6 million people under age 40 in the 2000 total population) to 4.7 million people (2.8 percent of the 165.7 million people under age 40 in the 2010 total population (figure 1).

Highlights

- From 2000 to 2010, the number of people in the U.S. civilian noninstitutionalized population under age 40 obtaining at least one outpatient prescription anti-diabetic or anti-hypertensive increased.
- From 2000 to 2010, the total number of outpatient prescriptions for persons under age 40 increased for anti-diabetics, anti-hypertensives, and statins—41 percent, 49 percent, and 179 percent, respectively.
- Comparing 2000 with 2010, for persons under age 40 in the U.S. civilian noninstitutionalized population inflation adjusted total expenses increased for anti-diabetics (126 percent) and for statins (97 percent).
- From 2000 to 2010, for persons under age 40, the inflation adjusted average cost per drug purchase of a prescription anti-diabetic increased 61 percent from $77 to $124.
- From 2000 to 2010, for persons under age 40, the inflation adjusted average cost per drug purchase of a prescription anti-hypertensive and statin decreased.

From 2000 to 2010, MEPS estimates showed growth in the total number of prescription purchases for anti-diabetics, anti-hypertensives, and statins for persons under age 40. Purchases of anti-diabetics rose from 10.5 million to 14.8 million prescriptions (an increase of 41 percent), purchases of anti-hypertensives increased from 21.0 million to 31.2 million prescriptions (an increase of 49 percent), and the number of statin purchases rose from 3.4 million to 9.5 million prescriptions (an increase of 179 percent) (figure 2).

There was an increase of 126 percent in total inflation adjusted expenditures for anti-diabetics (rising from $816 million to $1,843 million) and an increase of 97 percent in total inflation adjusted expenditures for statins (rising from $385.6 million to $760.1 million) when comparing the years 2000 and 2010. There was no significant increase in total inflation adjusted expenditures for anti-hypertensives when comparing the years 2000 and 2010 (figure 3).

There was an increase in the inflation adjusted average drug expense per purchase for persons under age 40 for an anti-diabetic ($77 versus $124, an increase of 61 percent). However, there was a decrease in the inflation adjusted average drug expense per purchase for persons under age 40 for an anti-hypertensive and statin ($47 versus $33 and $115 versus $80, respectively) (figure 4).

From 2000 to 2010, MEPS estimates showed no significant difference in the inflation adjusted average annual expense per person for anti-diabetics or anti-hypertensives for persons under age 40 purchasing one or more drugs in the above therapeutic classes (figure 5).

There was no significant difference when comparing the mean number of prescriptions obtained annually per person for persons under age 40 for the years 2000 and 2010 for anti-diabetics or anti-hypertensives (figure 6).

Data Source

The estimates shown in this Statistical Brief are based on data from MEPS: HC-068: Multum Lexicon Addendum Files to MEPS Prescribed Medicines Files 1996–2001, HC-051A: 2000 Prescribed Medicines File, HC-135A: 2010 Prescribed Medicines File, HC-138: 2010 Full Year Consolidated Data File, and HC-050: 2000 Full Year Consolidated Data File.

Definitions

Purchases and expenditures

Utilization was defined as purchasing or obtaining anti-diabetics, anti-hypertensives, and statins prescribed in the year of interest by persons under age 40. 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 2000 were adjusted to 2010 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 following was used to define anti-diabetics—in 2000 – therapeutic class: hormones; subclass: antidiabetic agents, and in 2010 – therapeutic class: metabolic agents; subclass: antidiabetic agents. The following was used to define anti-hypertensives—in 2000 – therapeutic class: cardiovascular agents, subclass: angiotensin converting enzyme inhibitors, antiadrenergic (peripheral acting), antiadrenergic (centrally acting), beta-adrenergic blocking agents, calcium channel blocking agents, diuretics, peripheral vasodilators, vasodilators, antihypertensive combinations, and angiotensin II inhibitors, and in 2010 – therapeutic class: cardiovascular agents, subclass: angiotensin converting enzyme inhibitors, antiadrenergic (peripheral acting), antiadrenergic (centrally acting), beta-adrenergic blocking agents, calcium channel blocking agents, diuretics, vasodilators, antihypertensive combinations, angiotensin II inhibitors, and renin inhibitors. The following was used to define statins—in 2000 – therapeutic class: antihyperlipidemic agents, and in 2010 – therapeutic class: metabolic agents, subclass: antihyperlipidemic agents. For additional information on these and other Multum Lexicon variables, please refer to the Multum Web site.

When looking at trends over time for therapeutic subclass and sub therapeutic subclasses, it is important to keep in mind many factors can play a role. These factors include: 1) drugs are reclassified due to changes in the Multum therapeutic classification scheme, 2) new drugs become available over time, and 3) generic versions of previously brand-name-only drugs become available.

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

Suggested Citation

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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 email us at MEPSProjectDirector@ahrq.hhs.gov or send a letter to the address below:

Steven B. Cohen, PhD, Director
Center for Financing, Access, and Cost Trends
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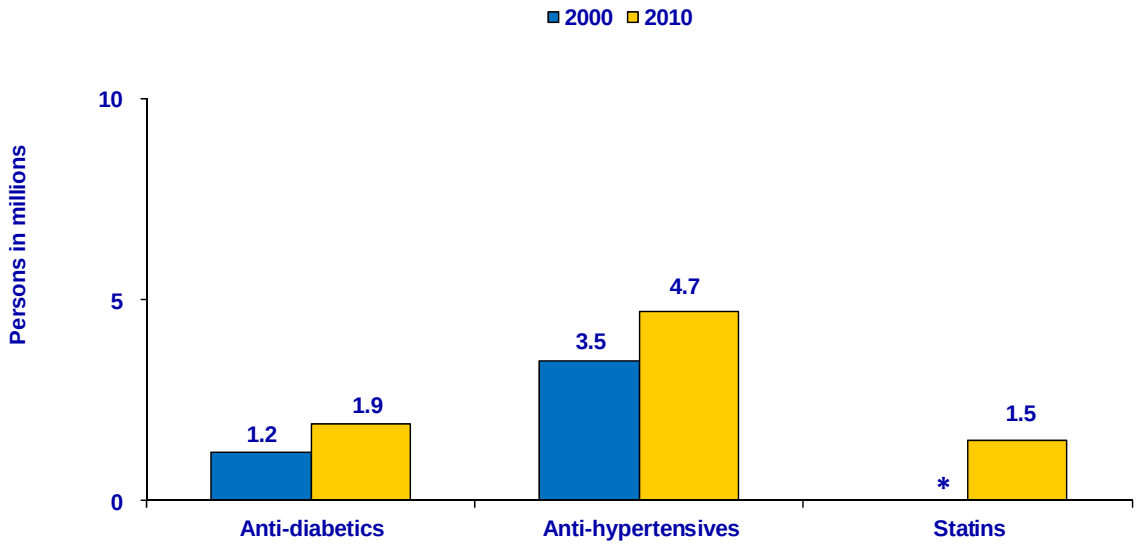
540 Gaither Road
Rockville, MD 20850

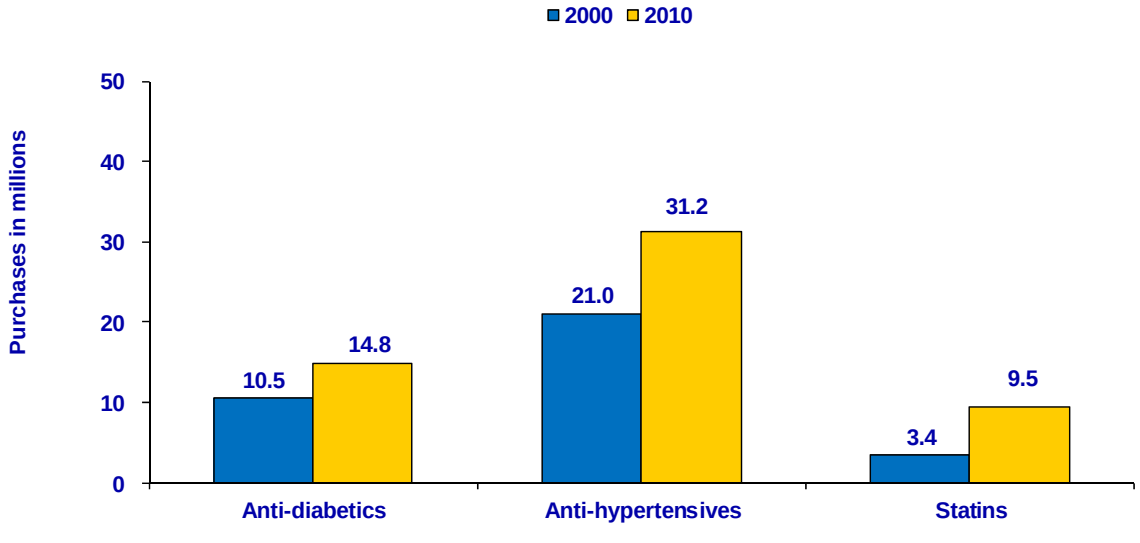
Figure 1. Total number of persons under age 40 purchasing one or more prescribed anti-diabetic, anti-hypertensive, or statin drug, 2000 and 2010



*Estimate cannot be provided due to small sample size

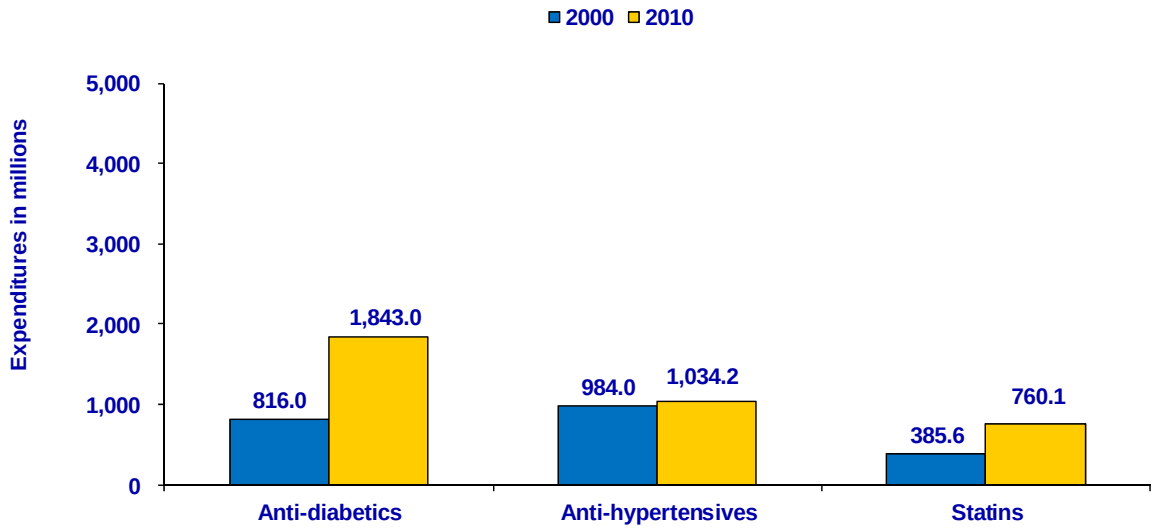
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2000 and 2010

Figure 2. Total number of prescribed drug purchases of anti-diabetic, anti-hypertensive, or statin drugs for persons under age 40, 2000 and 2010



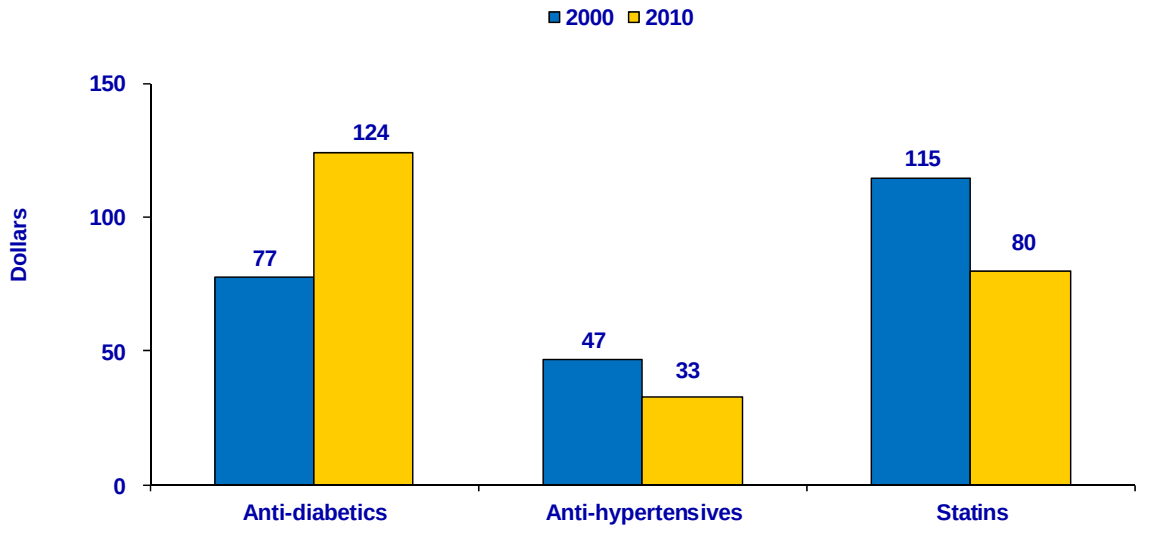
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2000 and 2010

Figure 3. Total expenditures for prescribed drug purchases of anti-diabetic, anti-hypertensive, or statin drugs for persons under age 40, 2000 and 2010



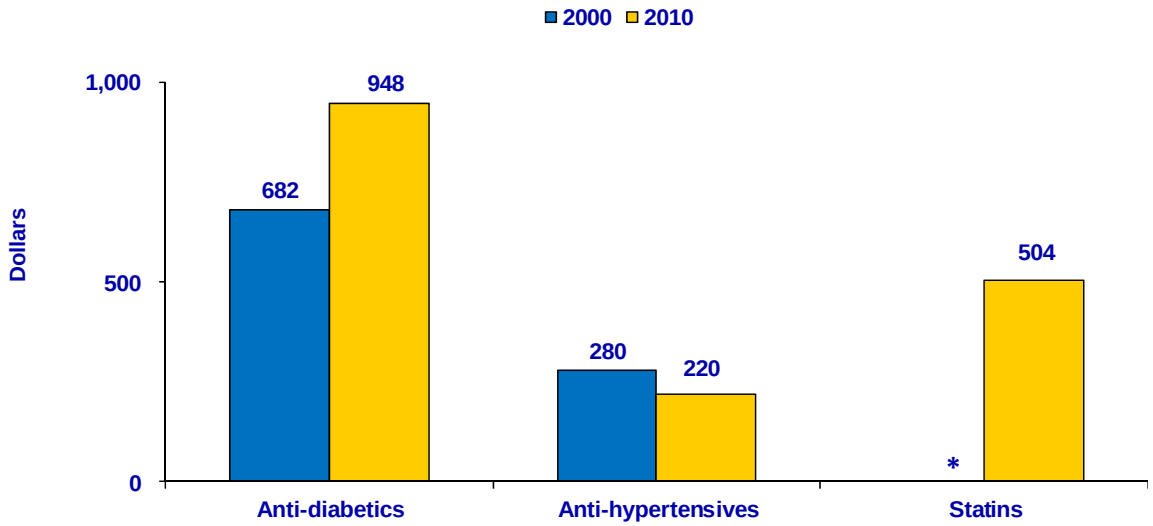
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2000 and 2010

Figure 4. Mean expense per drug purchase of anti-diabetic, anti-hypertensive, or statin drugs for persons under age 40, 2000 (adjusted to 2010 dollars) and 2010



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2000 and 2010

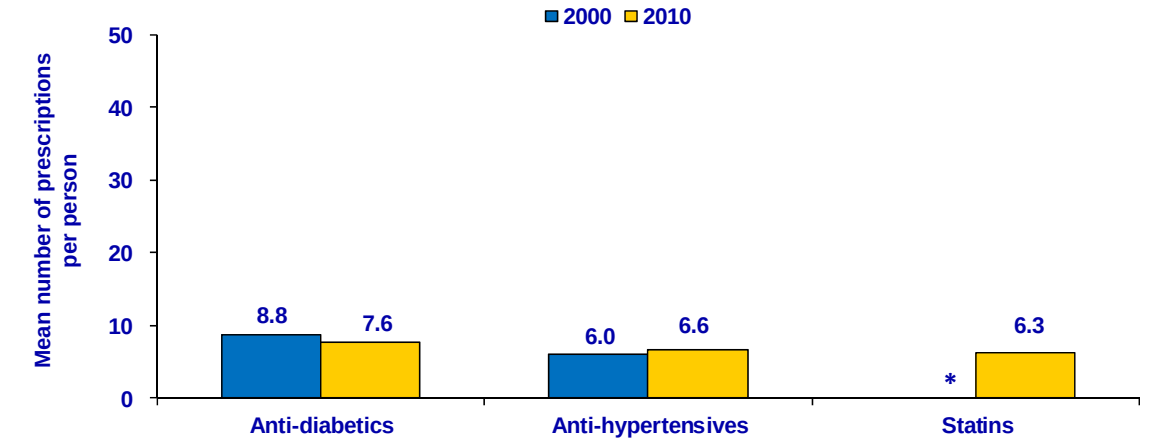
Figure 5. Mean expense per person under age 40 purchasing one or more anti-diabetic, anti-hypertensive, or statin drugs, 2000 (adjusted to 2010 dollars) and 2010



*Estimate cannot be provided due to small sample size

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2000 and 2010

Figure 6. Mean number of prescriptions per person for persons under age 40 purchasing one or more anti-diabetic, anti-hypertensive, or statin drugs, 2000 and 2010



*Estimate cannot be provided due to small sample size

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2000 and 2010