

STATISTICAL BRIEF #268

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Outpatient Prescription Anticoagulants Utilization and Expenditures for the U.S. Civilian Noninstitutionalized Population Age 18 and Older, 2007

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Introduction

Anticoagulants (blood thinners) are used to reduce the rate at which blood clots. Anticoagulants are used to prevent strokes, and blood clots in the veins, arteries, and lungs. Anticoagulants are also used to treat or prevent blood clots that may occur because of an abnormal heartbeat (atrial fibrillation). Several other predisposing conditions put patients at risk of blood clots including: heart conditions, hypertension, diabetes, high cholesterol, cancer, and surgery.

This Statistical Brief presents utilization and expenditures for outpatient prescription anticoagulants in 2007. The estimates are for the U.S. civilian noninstitutionalized population and are derived from the 2007 Household Component of the Medical Expenditure Panel Survey (MEPS-HC). For outpatient anticoagulants, this Brief presents estimates for total expenditures, total number of persons purchasing, as well as the average annual expenditure and out-of-pocket expenditures per person with at least one anticoagulant purchase.

Only prescribed medicine purchases in an outpatient setting are included in the estimates presented in this Brief. Prescription medicines administered in an inpatient setting, clinic, or physicians office as well as over the counter drug purchases of non-prescription aspirin products were excluded from these estimates. All differences discussed in the text are statistically significant at the 0.05 level.

Findings

In 2007, about 4.2 million Americans aged 18 or older in the U.S. civilian noninstitutionalized population had at least one outpatient anticoagulant purchase.

MEPS data indicate that for persons 18 and older in 2007 there were 27.9 million purchases and \$905.2 million was spent for outpatient anticoagulants (table 1).

In examining the MEPS data at the prescription level, the average expenditure for an outpatient anticoagulant prescription purchased in 2007 by persons 18 or older was \$32.50, on average \$13.93 was paid out of pocket. As one would expect, both the average expenditure per purchase and mean out of pocket per purchase were significantly higher for brand name anticoagulants than for generic drugs (\$64.96 versus \$18.17 and \$28.95 versus \$7.30, respectively).

For those adults with at least one anticoagulant drug purchase in an outpatient setting, the average annual expenditure was \$213.16 (figure 1). The average annual out-of-pocket cost for outpatient anticoagulants was \$91.37.

As shown in figure 2, the likelihood of purchasing an anticoagulant was positively correlated with age. While less than 1 percent (.65 percent) of those under age 65 used anticoagulants, the usage rate was more than 5 percent for persons ages 65-74 and more than 10 percent for persons 75 and older (5.6 percent and 10.2 percent, respectively) (figure 2).

In 2007, anticoagulant usage rates amongst persons 18 and older with conditions that put them at risk for blood clots were highest for persons with heart conditions. Overall, 10.8 percent of adults with cardiac conditions reported at least one anticoagulant purchase. More specifically, close to 25 percent (24.5 percent) of adults having dysrhythmia used anticoagulants in 2007. Anticoagulant use rates for adults with cancer, diabetes, high cholesterol, and hypertension ranged from 4.4 percent-6.2 percent (figure 3).

Almost three quarters (74.0 percent) of anticoagulant users over the age of 18 had a cardiac condition, 40.3 percent had surgery in the referent year, and about 30 percent had cancer or diabetes (30.2 percent and 27.6 percent) (figure 4).

Highlights

- Total expenditures for outpatient anticoagulants in 2007 were \$905.2 million for persons 18 or older.
- For persons 18 and older the total number of outpatient purchases of anticoagulants in 2007 was 27.9 million.
- The average expenditure of an outpatient anticoagulant purchased by an adult in 2007 was \$32.50; the average out-of-pocket cost was \$13.93.

Table 1. Total purchases, average expenditure/purchase, and mean out-of-pocket costs/purchase for anticoagulants by brand name/generic status for adults 18 and older, 2007

| | Total Purchases | Total \$ | Average Expend./purchase | Mean OOP/purchase |
|------------|------------------------|-----------------|---------------------------------|--------------------------|
| Total | 27.9 million | 905.2 million | \$32.50 | \$13.93 |
| Brand Name | 8.5 million | 554.1 million | \$64.96 | \$28.95 |
| Generic | 19.3 million | 351.1 million | \$18.17 | \$7.30 |

Data Source

The estimates shown in this Statistical Brief are drawn from analyses conducted by the MEPS staff from the following public use files: MEPS HC-110E: 2007 Emergency Room Visits, HC-110F: 2007 Outpatient Visits File, and HC-110G: 2007 Office-Based Medical Provider Visits File which are available on the MEPS Web site: <http://www.meps.ahrq.gov/mepsweb/>.

Definitions/Methodology

Utilization and expenditures

Utilization was defined as one or more purchases of a prescribed medicine of interest. Refills as well as original prescriptions are included in expenditure and utilization estimates. Individuals were classified as using a prescribed medicine of interest if they had one or more purchases of the drug of interest during the year.

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. For this Statistical Brief anticoagulants were defined as TC1S1=82. The following drugs were included: Arixtra, Coumadin, Heparin, Jantoven, Lovenox, and Warfarin. Drugs were classified as brand name/generic using the Master Drug Data Base v2.5 (MDDDB). Brand name drugs included: single source, no generics available or co-licensed as well as original products. For more information on the MDDDB (WoltersKluwer MEDI-SPAN--Health Master Drug Database) please refer to Medi-Span's 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.

Conditions

In MEPS the conditions reported by the respondent were recorded by the interviewer as verbatim text, which was coded by professional coders in post processing to fully specified ICD-9-CM codes. These codes were further aggregated into clinically meaningful categories (according to AHRQ Clinical Classification Software System (CCS)), that groups similar conditions. Conditions with CCS codes of 11-45 were classified as cancer, conditions with CCS codes of 96, 97, and 100-108 were classified as cardiovascular conditions, conditions with ICD-9 codes of 427 were classified as cardiac dysrhythmias, conditions with CCS codes of 98 and 99 were classified as hyperlipidemia, and conditions with CCS codes of 49 and 50 were classified as hypertension.

Surgery

For all hospital stays, outpatient department visits, medical provider office visits, and emergency room visits it was ascertained if any surgical procedures were performed. A summary variable was constructed to indicate any surgical event in the referent year.

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.

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, 1997. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.shtml

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, 1997. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr2/mr2.shtml

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., and Greenblatt, J. *Sample Design of the Medical Expenditure Panel Survey Household Component, 1998-2007*. 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

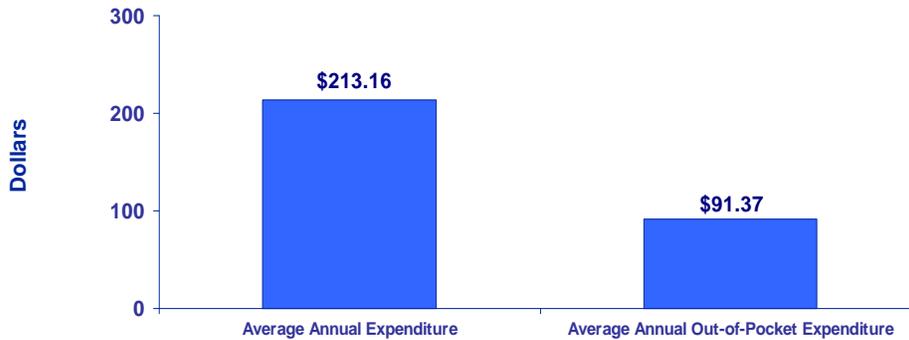
Beauregard, K.M. and Carper, K. *Outpatient Prescription Anticoagulants Utilization and Expenditures for the U.S. Civilian Noninstitutionalized Population Age 18 and Older, 2007*. Statistical Brief #268. October 2009. Agency for Healthcare Research and Quality, Rockville, MD. http://www.meps.ahrq.gov/mepsweb/data_files/publications/st268/stat268.pdf

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:

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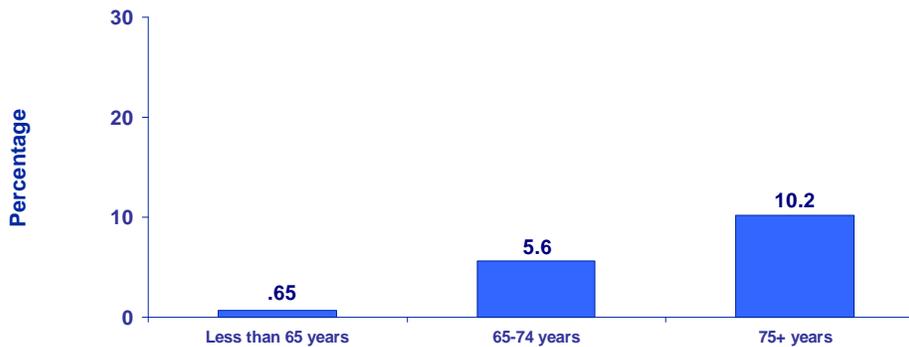
Figure 1. Average annual expenditures and out-of-pocket costs for anticoagulants among adults 18 and older with at least one outpatient anticoagulant drug purchase, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007



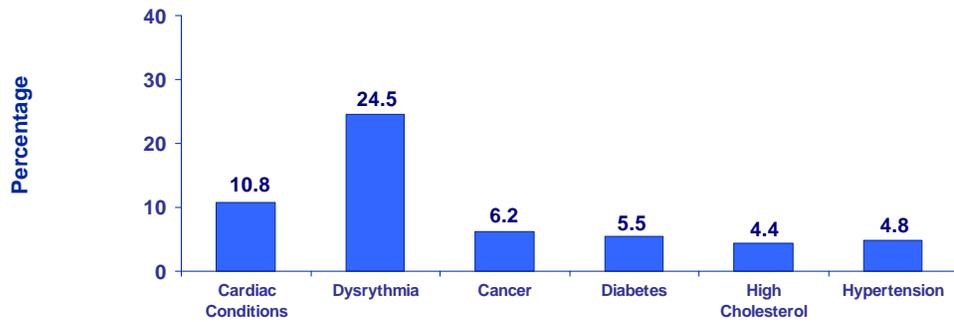
Figure 2. Percentage of adults 18 and older who purchased an anticoagulant by age group, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007



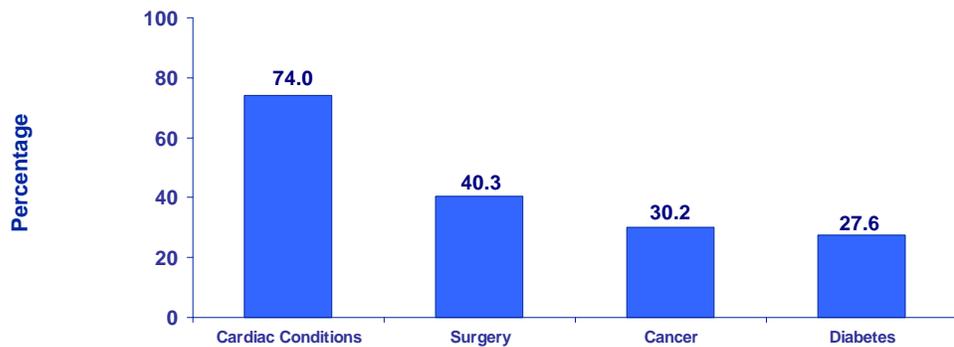
Figure 3. Percentage of adults 18 and older who purchased at least one outpatient anticoagulant, among those with selected conditions, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007



Figure 4. Percentage of adults 18 and older with selected conditions, among those using anticoagulants, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007