

STATISTICAL BRIEF #269

November 2009

Diabetes Management: Tests and Treatments among the Adult U.S. Civilian Noninstitutionalized Population, 2007

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Introduction

Diabetes mellitus is a group of diseases characterized by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. Diabetes is associated with a number of other health problems, including heart disease, stroke, high blood pressure, kidney disease, and blindness. If diagnosed and treated effectively, these complications and co-morbidities could be delayed or treated.

This Statistical Brief uses data from the Household Component of the 2007 Medical Expenditure Panel Survey (MEPS-HC) to estimate the treatment and management of diabetes by those who were told by a health professional that they had diabetes. All references to diabetics in this Brief refer to those reported to have ever been diagnosed with this disease by a health provider. All comparisons discussed in the text are statistically significant at the .05 level unless otherwise noted.

Findings

Many health complications may result if diabetes goes untreated, which thus necessitates its identification and receipt of appropriate treatments as extremely important. Some potential health complications include blindness, kidney damage, and lower-limb amputations. The three recommended tests for all diabetics include hemoglobin A1C blood test, dilated eye exams, and foot exams.

In 2007, 7.4 percent of the adult U.S. civilian noninstitutionalized population (16.5 million) was reported to have been told by a health professional that they had diabetes. Those who were age 65 and older were more than 3 times as likely as those ages 18-64 to have been told by a health professional that they had diabetes (18.3 versus 5.2 percent, respectively) (figure 1).

Diagnosed diabetes was higher among non-Hispanic blacks than Hispanics and non-Hispanic whites (9.6 percent versus 7.2 percent and 7.1 percent, respectively) (figure 2).

Adults who perceived themselves to be in fair/poor health status were found to have diagnosed diabetes at much higher rates than those who considered themselves in good/very good or excellent health (21.4 percent versus 7.0 percent and 1.4 percent, respectively) (figures not shown).

Management: Diagnostic tests

In 2007, about one-third (32.9 percent) of adults with diagnosed diabetes reported having received all three recommended tests (hemoglobin A1C, dilated eye exam, and foot exam) (figure 3). However, the majority of the adult diabetic population received only one or two of these tests (57.7 percent). There were a small percentage of persons (3.3 percent) who did not obtain any of the recommended diagnostic tests. In addition, there were 6.1 percent of diabetics who did not know whether or not they had received any of these three tests.

More than one-third (36.5 percent) of non-Hispanic whites reported receiving all three tests, which was higher than non-Hispanic blacks (25.7 percent) or Hispanics (22.3 percent) (figure 4).

Adults between the ages of 18 and 64 with private insurance were more likely to have received all three tests when compared to those of the same age group with public insurance or who were uninsured (36.0 percent versus 19.8 percent and

Highlights

- In 2007, 7.4 percent of the adult U.S. civilian noninstitutionalized population (16.5 million people) reported having been told by a health professional that they had diabetes.
- Men and women had comparable reported rates of diagnosed diabetes (7.4 percent versus 7.3 percent, respectively).
- The reported rate of diagnosed diabetes for those age 65 and older (18.3 percent) was more than 3 times the rate for those ages 18 to 64 (5.2 percent).
- Non-Hispanic blacks had higher rates of reported diagnosed diabetes than Hispanics or non-Hispanic whites (9.6 percent versus 7.2 percent and 7.1 percent, respectively).
- Only about one-third (32.9 percent) of adults with diagnosed diabetes reported having received all three recommended tests (hemoglobin A1C, dilated eye exam, and foot exam).
- A higher percent of non-Hispanic blacks (33.5 percent) who had diagnosed diabetes reported to using insulin to manage their diabetes as compared to Hispanics (21.4 percent) or non-Hispanic whites (22.5 percent).

18.3 percent, respectively). For persons age 65 and above, those with Medicare plus private (including TRICARE) insurance were more likely to receive all three tests (40.0 percent) when compared to persons with Medicare only coverage (31.5 percent) (figures not shown).

Management: Treatments

MEPS data indicated that 11.5 percent of adults with diagnosed diabetes used all 3 treatment methods (diet modification, oral medications and insulin) to manage their diabetes (figure 5). A majority (80.8 percent) of adult diabetics used diet modification (alone or in combination with oral medications or insulin) to help control their diabetes. More than three-fourths (78.8 percent) of diabetics were taking oral medications to keep their diabetes in control, while only about one-quarter of the adult diabetic population (24.1 percent) was using insulin for treatment of their diabetes. A small percentage of adult diabetics (1.2 percent) reported they did not use any of these three methods to treat and/or manage their diabetes.

A higher percentage of Hispanics reported taking oral medications to control their diabetes than non-Hispanic blacks and non-Hispanic whites (83.8 percent versus 77.4 percent and 78.1 percent respectively) (figure 6). Approximately one-third (33.5 percent) of non-Hispanic Blacks who had diagnosed diabetes reported using insulin to treat their diabetes. This was much higher than those who were Hispanic or non-Hispanic white (21.4 percent and 22.5 percent respectively).

Data Source

The estimates in this Statistical Brief are based upon data from the MEPS HC-107: 2007 Full Year Population Characteristics Data File. Specifically, the preventive care and treatment data analyzed in this Brief were ascertained in a short self-administered questionnaire (the Diabetes Care Supplement), which was distributed in Rounds 3-5 of the MEPS to adults identified as having physician-diagnosed diabetes in the previous MEPS Round.

Definitions

Racial and ethnic classifications

Classification by race and ethnicity was based on information reported for each family member. Respondents were asked if each family member's 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. MEPS respondents who reported other single or multiple races and were non-Hispanic were included in the other category.

Health insurance status

Individuals under age 65 were classified in the following three insurance categories, based on household responses to health insurance status questions:

- Any private health insurance: Individuals who, at any time during the year, had insurance that provides coverage for hospital and physician care (other than Medicare, Medicaid, or other public hospital/physician coverage) were classified as having private insurance. Coverage by TRICARE (Armed Forces-related coverage) was also included as private health insurance. Insurance that provides coverage for a single service only, such as dental or vision coverage, was not included.
- Public coverage only: Individuals were considered to have public coverage only if they met both of the following criteria: 1) they were not covered by private insurance at any time during the year, and 2) 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 were defined as people not covered by private hospital/physician insurance, Medicare, TRICARE, Medicaid, or other public hospital/physician programs at any time during the entire year or period of eligibility for the survey.

For individuals 65 and older, the following insurance categories were used:

- Medicare only: Individuals who, at any time during the year, were covered by Medicare only. This classification also includes a small number of persons ages 65 and over who did not report Medicare coverage.
- Medicare plus private (including TRICARE): Individuals who at any time during the year, were covered by a combination of Medicare, TRICARE, or private insurance.
- Medicare plus other public coverage: Individuals who, at any time during the year, were covered by Medicare in addition to some other type of public insurance.

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

Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2007. Available at: http://www.cdc.gov/NCHS/nhis/nhis_series.htm#07reports/sr10_240.pdf

Agency for Healthcare Research and Quality. *National Healthcare Quality Report 2005*. Rockville, MD: U.S. Department of Health and Human Services. <http://www.ahrq.gov/qual/Nhqr05/fullreport/ManCon.htm>

Centers for Disease Control and Prevention. National Diabetes Fact Sheet: *General Information and National Estimates on Diabetes in the United States, 2007*. Rev ed. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2007. http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2007.pdf

American Diabetes Association--Living with Diabetes: Available at diabetes.org/living-with-diabetes/

For a detailed description of the MEPS-HC survey design, sample design and methods used to minimize sources of non-sampling errors, 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.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, 1997. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr2/mr2.pdf

Ezzati-Rice, T.M., Rohde, F., 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

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

Suggested Citation

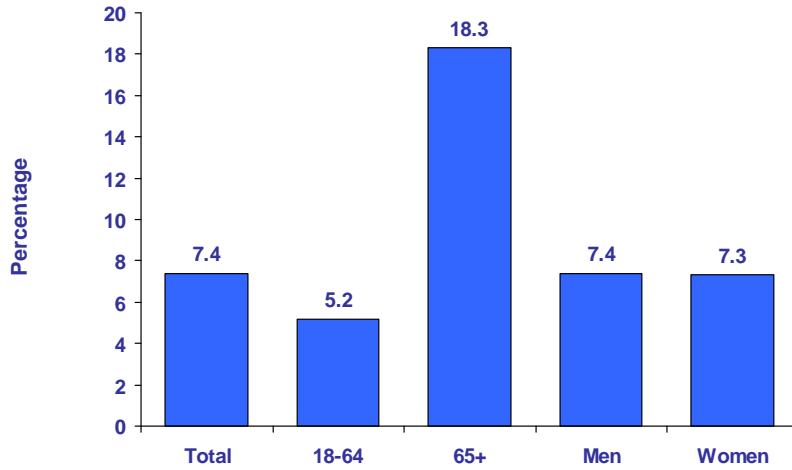
Soni, A. *Diabetes Management: Tests and Treatments among the Adult U.S. Civilian Noninstitutionalized Population, 2007*. Statistical Brief #269. November 2009. Agency for Healthcare Research and Quality, Rockville, MD. http://www.meps.ahrq.gov/mepsweb/data_files/publications/st269/stat269.pdf

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 mepsdpd@ahrq.gov or send a letter to the address below:

Steven B. Cohen, PhD, Director
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Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850



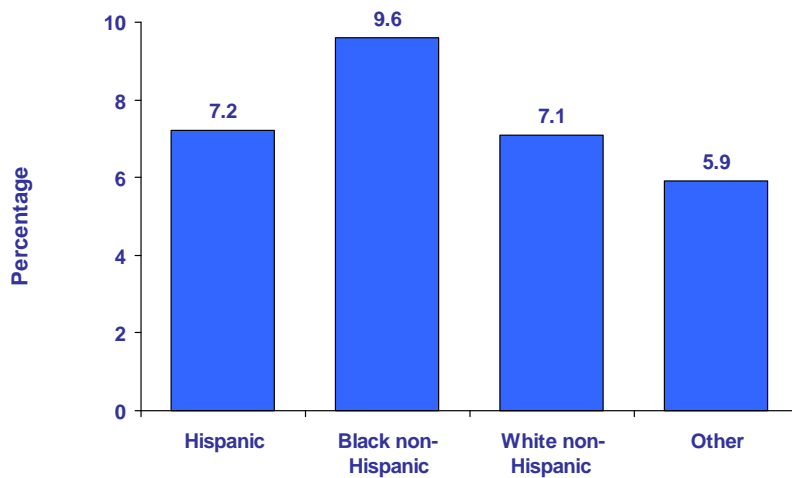
Figure 1. Percentage of adults with reported diagnosed diabetes, by age and sex, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, MEPS HC-107: 2007 Full Year Population Characteristics File



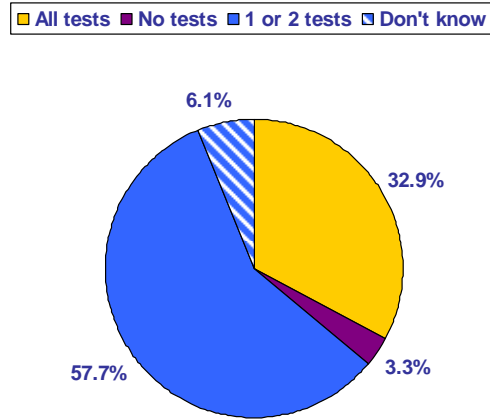
Figure 2. Percentage of adults with reported diagnosed diabetes, by race/ethnicity, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, MEPS HC-107: 2007 Full Year Population Characteristics File



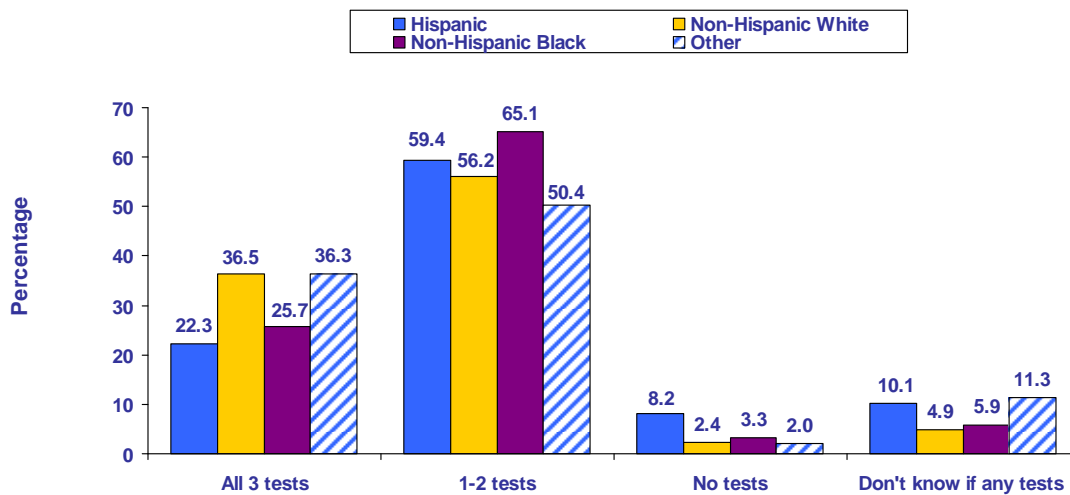
Figure 3. Distribution of adult diabetics receiving recommended diabetes tests, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, MEPS HC-107: 2007 Full Year Population Characteristics File



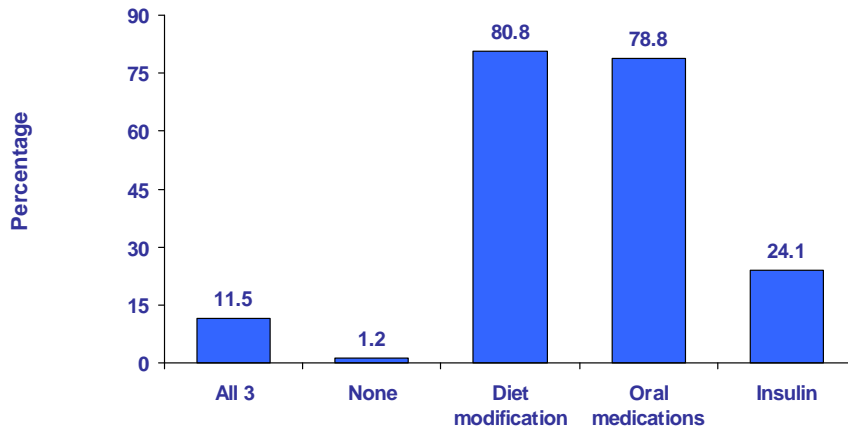
Figure 4. Percentage of adult diabetics receiving recommended diabetes tests, by race/ethnicity, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, MEPS HC-107: 2007 Full Year Population Characteristics File



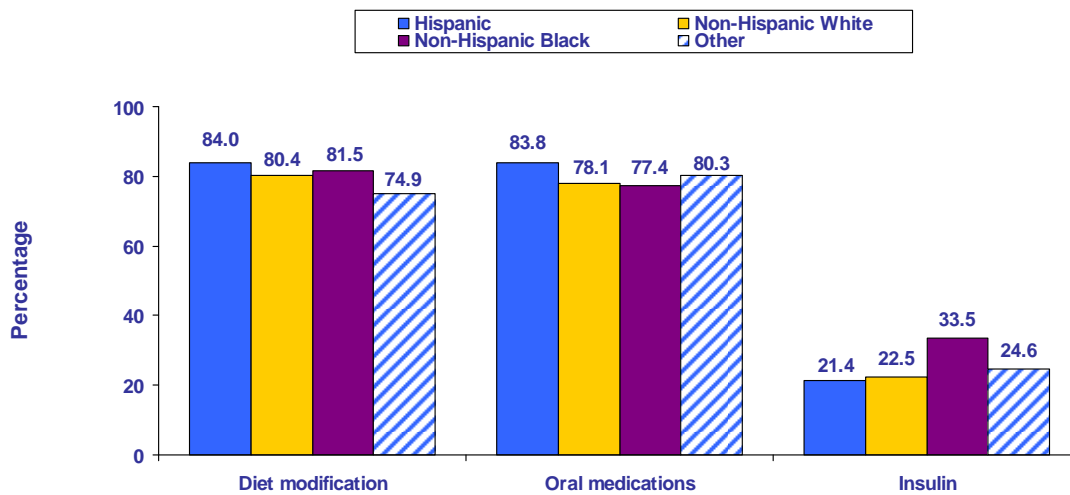
Figure 5. Percentage of adult diabetics using diabetes management/treatment methods, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, MEPS HC-107: 2007 Full Year Population Characteristics File



Figure 6. Percentage of adult diabetics using diabetes management/treatment methods, by race/ethnicity, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, MEPS HC-107: 2007 Full Year Population Characteristics File