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**SAMPLE**

*2010 Cohort 13*

**MEDICARE  
ADVANTAGE  
ORGANIZATION  
BASELINE REPORT**

**MEDICARE HEALTH**

**OUTCOMES SURVEY**

**CENTERS  
FOR MEDICARE  
& MEDICAID  
SERVICES**

**HEALTH  
SERVICES  
ADVISORY  
GROUP**



DEPARTMENT OF HEALTH & HUMAN SERVICES  
Centers for Medicare & Medicaid Services  
7500 Security Boulevard  
Baltimore, Maryland 21244-1850



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June 2011

Medicare Advantage Organizations and Quality Improvement Organizations,

The Centers for Medicare & Medicaid Services (CMS) is pleased to provide you with your Medicare Advantage Organization's (MAO) baseline results for *2010 Cohort 13* of the Medicare Health Outcomes Survey (HOS). The *2010 Cohort 13 Baseline Report* includes results from the Medicare HOS version 2.0.

CMS is encouraging each MAO to work in collaboration with their Quality Improvement Organization (QIO) to examine their results for use in quality improvement activities. The QIOs will receive MAO findings and the patient specific HOS data sets for their state(s) to support QIOs' quality improvement activities with the MAOs.

The subsection entitled "Featured Uses of HOS Data" in the Program Highlights section of the Baseline Report provides an example of how MAOs can use their results to target quality improvement activities. The Baseline Report also includes, but is not limited to: a Reader's Guide; an Executive Summary; Baseline Results (including subsections on the Physical Component Summary and Mental Component Summary Scores, General and Comparative Health, Chronic Medical Conditions, as well as additional health status indicators); the NCQA HEDIS measures; and frequencies for each of the *2010 Cohort 13 Baseline* survey fields.

You may submit inquiries to [hos@azqio.sdps.org](mailto:hos@azqio.sdps.org), or contact Health Services Advisory Group (HSAG) through the HOS Information and Technical Support telephone line at (888) 880-0077, and you may visit CMS' HOS web address at [www.cms.gov/hos](http://www.cms.gov/hos).

Sincerely,

/s/

Thomas Reilly, PhD  
Director,  
Data Development and Services Group

# Medicare Health Outcomes Survey

## Sample MAO Report

The following is a **sample** version of the *Cohort 13 Baseline* Report made available to all Medicare Advantage Organizations (MAOs) participating in the *2010 Cohort 13 Baseline* Medicare Health Outcomes Survey.

The figures, tables, and text in this document contain sample MAO and state level data; however, all references to the *HOS Total* reflect **actual** data.

The Medicare HOS Information and Technical Support Telephone Line (1-888-880-0077), as well as the HOS e-mail address ([hos@azqio.sdps.org](mailto:hos@azqio.sdps.org)), are available to provide assistance with report questions and interpretation. A full description of the HOS program may be found at [www.hosonline.org](http://www.hosonline.org).

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## READER'S GUIDE

The following Reader's Guide is provided to answer general questions about the HOS baseline reports. For further assistance, please refer to the Technical Assistance information on the next page.

- **How can I use the information contained in this report?**  
The Baseline Report is designed to guide each Quality Improvement Organization (QIO) and Medicare Advantage Organization (MAO) in identifying the overall health of their Medicare population and in exploring potential programmatic interventions aimed at maintaining or improving health status. The Medicare HOS website includes a section entitled, "Real World Uses of HOS Data" to assist MAOs and QIOs in their quality improvement activities. Please refer to the Program Highlights section in this report for additional information about the website content and other updates about the HOS.
- **What if I encounter a term I do not understand?**  
A glossary consisting of definitions relevant to Medicare HOS may be found in the Program Overview section of the HOS website at [www.hosonline.org](http://www.hosonline.org).
- **Where can I find my MAO level results and information on how they were generated?**  
The *2010 Cohort 13 Baseline* results are presented in the Executive Summary and Baseline Results sections in this report. A summary of the data collection and analysis may be found in Appendix 1. In addition, response frequencies for each of the survey fields may be found in Appendix 2. *Please note that the percentages in the tables and graphs may not add to 100% due to rounding.*
- **Where can I find the number and a description of the beneficiaries that participated in determining my MAO level results?**  
The number of beneficiaries that participated in the HOS and a table of demographic information are summarized in the Response Rates and Distribution of the Sample subsection of the Baseline Results section.
- **Where can I find the 2010 NCQA HEDIS<sup>®</sup> Measure results?**  
The 2010 National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS<sup>®</sup>)<sup>1</sup> Measure results are reported in the NCQA HEDIS Measures section. In addition, HEDIS Measure results are summarized for each MAO in the State in the Executive Summary section.
- **Where can I find the HOS Program information, such as sampling methodology and reporting timelines?**  
A summary of the HOS sampling methodology and survey administration can be found in Appendix 1 of this report. An overview of the HOS program, as well as the sampling and program timelines can be found in the Program Overview and Program Timeline sections of the HOS website at [www.hosonline.org](http://www.hosonline.org).

- **Where can I find additional MAO level results?**  
 A summary table of the *2010 Cohort 13 Baseline* results for the physical health and mental health summary scores are presented for each MAO in the State in the Executive Summary section. In addition, the individual reports for all MAOs in the State are distributed to each QIO in a zipped file with the State level report.
- **What survey questions were used in the HOS?**  
 The 2010 Medicare HOS 2.0 questionnaire may be downloaded from the Survey Instrument section of the HOS website at [www.hosonline.org](http://www.hosonline.org). In addition, the HOS questionnaire may also be found in the NCQA HEDIS 2010, Volume 6 Specifications for the Medicare Health Outcomes Survey Manual.<sup>2</sup>
- **Where can I obtain a copy of the HEDIS 2010, Volume 6 Manual?**  
 Copies of the HEDIS 2010, Volume 6 Specifications for the Medicare Health Outcomes Survey Manual, as well as other HEDIS Volume 6 publications, may be purchased by calling the NCQA Customer Support Telephone Line at 1-888-275-7585 or via NCQA's Secure Online Order Center ([www.ncqa.org](http://www.ncqa.org)).
- **When will QIOs and MAOs receive beneficiary level data for *Cohort 13 Baseline*?**  
 State files of the baseline beneficiary level data are planned for distribution to QIOs in the Fall of 2011 via the HOS\_Data Exchange Group within the CMS QualityNet application. The merged baseline and follow up beneficiary level data will be distributed to the MAOs and QIOs in the Fall of 2013, after completion of the 2012 follow up survey and the release of the *2010-2012 Cohort 13 Performance Measurement Report* in 2013. MAOs are notified via CMS' Health Plan Management System (HPMS) about the availability of their merged data and how to request it, while QIOs receive the state files via QualityNet.
- **How can I obtain additional copies of this report?**  
 All report distribution occurs electronically to participating MAOs through CMS' HPMS, and to participating QIOs through the HOS\_Data Exchange Group within QualityNet. In addition, QIOs may access their HOS reports and the reports for all MAOs in their state via HPMS. An HPMS User ID is required to access the HPMS. MAOs may contact their CMS Quality Point of Contact to obtain access to their HOS reports. If assistance is required regarding HPMS access, please contact CMS at [hpms\\_access@cms.hhs.gov](mailto:hpms_access@cms.hhs.gov).
- **Where can I find information about research and reports related to the HOS?**  
 Information about peer-reviewed articles, technical reports, and manuals related to the HOS may be found on the Publication section of the HOS website. Consult the What's New section for a listing of new reports and general updates ([www.hosonline.org](http://www.hosonline.org)).

## TECHNICAL ASSISTANCE

The Medicare HOS Information and Technical Support Telephone Line (1-888-880-0077), as well as the HOS e-mail address ([hos@azqio.sdps.org](mailto:hos@azqio.sdps.org)), are available to provide assistance with report questions and interpretation. Additionally, the Medicare HOS Overview section on CMS' website provides general information on the program ([www.cms.gov/hos](http://www.cms.gov/hos)). A full description of the HOS program may be found at [www.hosonline.org](http://www.hosonline.org).

## **PROGRAM HIGHLIGHTS**

### **SELF-PACED TRAINING WEBINARS ON THE HOS WEBSITE**

The first of a series of self-paced training webinars is now available on the HOS website. These training programs can be accessed at any time at the convenience of the user. The webinar entitled “Introduction to the Medicare Health Outcomes Survey (HOS)” is a basic training session that is appropriate for MAOs that are new to the HOS or those who want to obtain an overview of the kinds of information that the HOS provides about the health of beneficiaries. In addition, the training program provides some practical guidance about how to obtain HOS reports and data. To access the webinar, go to the Real World Uses section of the website at [www.hosonline.org](http://www.hosonline.org).

### **NATIONAL CANCER INSTITUTE (NCI) SEER-MHOS LINKED DATA SET**

The Surveillance, Epidemiology, and End Results (SEER) and the Medicare Health Outcomes Survey (MHOS) linked data sets are now available. The linked data sets are surveillance databases that link data on cancer patients to patient-reported outcome measures and provide researchers with the potential to investigate the health status and Health-Related Quality of Life (HRQOL) of older adults enrolled in Medicare Advantage Organizations with and without a cancer diagnosis. The SEER-MHOS linked data sets available now include data collected during the years of 1998-2005. The HOS data are from baseline and follow up surveys for *Cohorts 1-6* collected during the same time period. Direct person identifiers (i.e., name, address, SSN, and the Medicare Health Insurance Claim number) and plan identifiers (i.e., contract number and plan name) are removed from the linked dataset. Researchers who are interested in using this linked data in their investigations may go to the following website for information: <http://outcomes.cancer.gov/surveys/seer-mhos>.

### **MEDICARE HEALTH OUTCOMES SURVEY 2.0**

In 2006, CMS implemented the Medicare HOS 2.0 for MAOs. The HOS 2.0 evaluates Health Related Quality of Life (HRQOL) of Medicare Advantage beneficiaries by measuring their physical and mental health status using the Veterans RAND 12-Item Health Survey (VR-12).<sup>3</sup> The HOS contains questions about: socio-demographics, Activities of Daily Living (ADLs), chronic medical conditions, health symptoms, number of unhealthy days in the past 30 days, depression risk, and height and weight categories used for calculation of Body Mass Index (BMI). Four Healthcare Effectiveness Data and Information Set (HEDIS<sup>®</sup>)<sup>1</sup> measures are included to evaluate management of urinary incontinence, physical activity, osteoporosis testing and fall risk management.

Use of this HOS 2.0 instrument reduces beneficiary burden while maintaining comparability of HOS results over time. The Medicare HOS 2.0 may be downloaded from the Survey Instrument section of the HOS website ([www.hosonline.org](http://www.hosonline.org)). In addition, an updated glossary of terms related to the survey may be accessed from the Program Overview section of the HOS website.

## FEATURED USES OF HOS DATA

MAOs may use HOS data in the following ways to target quality improvement strategies:

- Review health status results and HEDIS measures to identify opportunities for quality improvement activities. These include, but are not limited to:
  - Identifying the HEDIS measures for which the MAO had substantially lower rates, when compared to state or national benchmarks.
  - Identifying the specific chronic conditions or negative health symptoms that are associated with low physical and mental health status.
  - Identifying the specific chronic conditions or negative health symptoms for which the MAO had disproportionately high prevalence, relative to state or national averages.
- Develop Chronic Care Improvement Programs (CCIPs) as appropriate to target seniors with multiple chronic conditions.
- Prioritize and select areas for quality improvement activities.
  - Set goals and performance objectives for the chosen quality improvement activities.
  - Perform a root cause analysis and develop a quality improvement action plan. The action plan may include the adoption and dissemination of clinical practice guidelines for physicians, physician education through academic detailing, patient education and outreach through a website, newsletters, mailings, or telephone outreach and reminders.
  - Measure and monitor the performance over time.
  - Provide performance feedback to physicians.

### Example

The ability to assess the prevalence of various chronic medical conditions in your elderly population is an important feature of the HOS. This information can be used to develop quality improvement strategies that focus on the most prevalent chronic conditions in your patient population in order to reduce or prevent declines in health status. For example, arthritis of the hip or knee and arthritis of the hand or wrist are the second and third most prevalent chronic medical conditions identified by beneficiaries in the HOS. Research on chronic conditions in the Medicare managed care elderly indicate that arthritis of the hip or knee contributed to the greatest decline in beneficiaries' physical health, when compared to other chronic conditions measured in the HOS.

Some of the more salient facts about arthritis that should be considered are the following. The risk of arthritis increases with age. Arthritis is more common among women than men and more common among those who are obese than among normal weight or underweight individuals. In addition, arthritis may be an unrecognized barrier for adults with heart disease and diabetes to manage their condition through increasing physical activity.<sup>4</sup> A recent study on the prevalence of obesity in Medicare MAOs utilizing data from the *HOS 2006-2008 Cohort 9 Merged Baseline and Follow Up*, found that more than half of the obese reported having arthritis of the hip or knee compared to nearly one third of the normal weight beneficiaries (55.3% vs. 31.3%). Obese beneficiaries had substantially greater activity limitations, as evidenced by 40.0% of the obese

group who had difficulty with or were unable to walk compared to 20.4% of the normal weight group.<sup>5</sup>

New findings from the Centers for Disease Control and Prevention (CDC) about national progress on meeting three objectives for Healthy People 2010 on arthritis management indicate that U.S. clinicians have made significant progress toward meeting one objective: counseling overweight and obese patients with arthritis to lose weight to help ease their symptoms. The researchers report that the number of overweight and obese adults with arthritis who were counseled by their clinicians to lose weight increased significantly from 35% in 2002 to 41.3% in 2006, not quite meeting the 2010 goal of 46%. Most of the gains were from the increase observed among those who were obese (from 50.4% in 2002 to 59.8% in 2006) as compared to a marginal increase in weight counseling among overweight individuals (from 18.1% to 19.8%). More work is needed on the other two objectives: physical activity counseling (51.9% in 2002 and 2006) and arthritis self-management education (11.2% in 2002 and 10.6% in 2006), which had 2010 goals of 67% and 13%, respectively.<sup>6</sup>

Quality initiatives that comprehensively address many areas could have a significant impact on improving the quality of life of individuals with arthritis including: learning techniques to manage arthritis and lessen its effect, how to be physically active, how to exercise safely, maintaining a healthy weight, dealing with depression, as well as consulting a physician for early diagnosis. The CDC website provides information about their arthritis program, as well as examples of successful initiatives that have been employed in various states. Also available on the CDC website are physical activity programs that have been successfully employed for people with arthritis.<sup>7</sup>

#### **NEED MORE HELP?**

- Visit the Medicare HOS website for more information on the uses of the Medicare HOS data ([www.hosonline.org](http://www.hosonline.org)). A section of the website entitled “Real World Uses of HOS Data” provides links to webinars that feature topics such as:
  - Introduction to the Medicare Health Outcomes Survey (HOS)
  - Overview of the Medicare Health Outcomes Survey and Strategies For Using HOS Data to Improve Quality
  - Using the Medicare HOS Data to Identify Strategies for Managing Chronic Conditions and to Identify At-Risk Beneficiaries
- MAOs may contact their local Medicare QIO for technical support and assistance with quality improvement activities.
- Medicare QIOs are encouraged to contact the HOS Technical Support Team at Health Services Advisory Group at [hos@azqio.sdps.org](mailto:hos@azqio.sdps.org).

## EXECUTIVE SUMMARY

The Centers for Medicare & Medicaid Services (CMS) is committed to monitoring the quality of care provided by Medicare Advantage Organizations (MAOs). The Medicare Health Outcomes Survey (HOS) results continue to be an important part of CMS' quality improvement activities, as current law authorizes Quality Improvement Organizations (QIOs) to ensure that medical care paid for under the Medicare program meets professionally recognized standards of health care. Section 722 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) mandates the collection, analysis, and reporting of health outcomes information. This legislation also specifies that data collected on quality, outcomes and beneficiary satisfaction to facilitate consumer choice and program administration must utilize the types of data collected prior to November 1, 2003. Collected since 1998, the Medicare HOS is the only patient-reported outcomes measure in Medicare managed care, and therefore remains a critical part of assessing MAO quality. In addition, CMS includes the HOS results as one component of their performance assessment program.

The goal of the HOS program is to gather valid and reliable health status data in Medicare managed care for use in quality improvement activities, public reporting, MAO accountability and improving health outcomes. This HOS Baseline Report is part of a larger effort by CMS to improve the health care industry's capacity to sustain and improve the health status and functioning of its Medicare population. The baseline results are intended to assist MAOs and QIOs in identifying areas for potential improvement. The report contains information on baseline measures of physical and mental health, chronic medical conditions, functional status (e.g., Activities of Daily Living), clinical measures, NCQA HEDIS<sup>® 1</sup> measures and other health status indicators. The Baseline Report is produced and made available to all participating MAOs and QIOs after each annual baseline cohort data collection is completed.

The HOS Baseline Report presents results for MAO HXXXXA based on data from the Medicare HOS 2010 Cohort 13 Baseline survey. On the following pages, a national profile of the Cohort 13 Baseline sample distribution and general health status is provided for the analytic sample of seniors. In addition, the results for the physical component summary (PCS) and mental component summary (MCS) scores and the NCQA HEDIS measures are provided for your MAO, each MAO in the State, the State, and the HOS Total. More detailed information about the results is provided in the Baseline Results and NCQA HEDIS Measures sections of the report.

### NATIONAL PROFILE

#### HOS Sample

In 2010, the HOS Cohort 13 Baseline included a random sample of 546,931 beneficiaries, including both the aged and disabled, from 471 MAOs. Of the eligible sample of 532,852, 63.3% (337,249) completed the survey. Of the total sample, 440,764 were eligible seniors. Of the eligible seniors, 284,262 completed the baseline survey and comprise the 2010 Cohort 13 Baseline analytic sample.

### Physical and Mental Health

The primary physical and mental health status measures for the HOS are the PCS and MCS scores. For the HOS analytic sample, a mean adjusted PCS score of 38.9 and a mean adjusted MCS score of 51.4 were found.

In general, functional health status as measured by the PCS score is expected to decline over time in older age groups, while mental health status as measured by the MCS score is not.<sup>8</sup> For the HOS analytic sample, the mean unadjusted PCS scores were highest for the 65-69 year age group with a mean PCS of 41.3. As expected, a steady decline with increasing age was more pronounced for the physical health measure, with mean PCS scores of 40.6 for 70-74 year olds, 38.5 for 75-79 year olds, and 36.5 for 80-84 year olds. The lowest mean PCS score of 32.5 was found for those 85 or older. The mean unadjusted MCS scores were more consistent, with mean scores of 51.9 for 65-69 year olds, 52.2 for 70-74 year olds, and 51.5 for 75-79 year olds. The mean MCS scores were slightly lower in the 80-84 year age group (50.7) and lowest among those 85 or older (48.6).

### Demographics

For the HOS analytic sample, the mean age was 74.8 years, 58.6% were female, and 81.3% were White. In addition, 53.7% of the respondents were married, 71.9% were high school graduates or higher, 56.4% had annual household incomes less than \$30,000 and 81.6% were not Medicaid recipients.

With the advent of the MMA in 2003 and an influx of Medicare beneficiaries to the Medicare Advantage program, a shift to a more racially diverse population has been noted. For instance, the distribution for race in the *2010 Cohort 13 Baseline*, as indicated by CMS administrative data, demonstrates the following percentages: 81.3% White; 11.0% Black; and 7.6% other, which includes 2.8% Hispanic, 2.4% Asian, and 2.4% North American Native, other or unknown (latter percentages not shown in a table). For comparison with an earlier HOS cohort, the *1998 Cohort 1 Baseline* race distribution was 89.0% White, 6.4% Black, and 4.5% other.

Indicators in the report entitled *Older Americans 2010: Key Indicators of Well-Being* from the Federal Interagency Forum on Aging-Related Statistics suggest that the older U. S. population is becoming more diverse.<sup>9</sup> The report addresses the U.S. population age 65 and older. In 2008, women accounted for 58% of this older population. Non-Hispanic Whites accounted for 80%, Blacks for 9%, Asians for 3%, Hispanics of any race accounted for 7%, and all other races accounted for 1% of the older population.

### General Health and Comparative Health

At the national HOS level, approximately 68% of the respondents rated their *general health* as “Excellent”, “Very Good”, or “Good”, while 31% indicated that their *general health* was “Fair” or “Poor.” Some 28% indicated that their *physical health compared to one year ago* was “Slightly Worse” or “Much Worse,” while a smaller percentage (14%) responded that their *mental health compared to one year ago* was “Slightly Worse” or “Much Worse.”

### Depression

Although 26.6% responded affirmatively to having been depressed at least one or two days in the past week, as many as 35.5% had a positive depression screen when “Yes” responses for any of the four questions used for the screening are taken into account.

### Chronic Medical Conditions

Among the fourteen chronic medical conditions assessed in the HOS, hypertension was the most prevalent chronic condition (67.4%). Arthritis of the hip or knee (43.1%), arthritis of the hand or wrist (38.3%), and diabetes (27.4%) were the second, third, and fourth most prevalent chronic conditions, respectively. Gastrointestinal disease, such as Crohn’s disease and ulcerative colitis, was the least prevalent with 5.3% reporting this condition. Only 8.4% had no chronic conditions, while more than one third (39.4%) reported having four or more chronic conditions.

### Activities of Daily Living

Among the six Activities of Daily Living (ADLs) that were assessed, the largest percentage of beneficiaries reported impairment with walking (33.2%), followed by getting in or out of chairs (23.7%), bathing (16.8%), dressing (13.6%), and using the toilet (10.4%). The smallest percentage reported impairment with eating (6.0%). Some 62.0% reported having no ADL impairments, while 12.5%, 9.4%, and 16.2% reported having one, two, and three or more impairments, respectively.

### Healthy Days Measures

Three Healthy Days Measures were assessed for the HOS. An average of 6.5 *physically unhealthy days*, 4.0 *mentally unhealthy days*, and 4.5 *days with activity limitations* in the previous 30 days were reported by the HOS seniors. Although 55.9% reported having no *physically unhealthy days*, 22.7% reported having 1-13 days and 21.5% reported having 14-30 days in which they were physically unhealthy in the previous 30 days. Since 68.0% reported having no *mentally unhealthy days*, there were somewhat smaller percentages for those who reported having 1-13 days (19.2%) or 14-30 days (12.8%). Some 70.6% reported having no *days with activity limitations* in the previous 30 days, while 14.0% reported 1-13 *days with activity limitations* and 15.4% reported 14-30 *days with activity limitations*. This data indicates that nearly one third of the HOS beneficiaries are experiencing some level of activity limitation due to poor physical or mental health.

### Clinical Measures

The reported height and weight categories were used to calculate BMI, which was categorized into five groups. The overall distribution of BMI included the following: 5.8% were underweight (BMI less than 20), 28.5% were normal weight (BMI 20-24.99), 37.8% were overweight (BMI 25-29.99), 18.4% were obese (BMI 30-34.99), and 9.4% were considered to be morbidly obese (BMI 35 or more). There was a substantially higher percentage of males than females in the overweight category (46.6% of males vs. 31.6% of females). There were slightly higher percentages of females in the extreme categories of underweight (7.7% of females vs. 3.2% of males) and morbid obesity (10.7% of females vs. 7.4% of males), as well as in the

normal weight category (31.5% of females vs. 24.4% of males). The percentages were nearly equal in the obese category with 18.5% of females vs. 18.4% of males.

Although 24.7% reported they had no arthritis pain, the following percentages reported having arthritis pain by level of severity: very mild (18.3%), mild (20.2%), moderate (26.6%) and severe (10.2%). The mean unadjusted PCS score for those who reported no pain was 45.9. As expected, lower mean PCS scores were found for beneficiaries with any level of pain, and particularly for those with moderate (mean PCS of 33.5) or severe pain (mean PCS of 25.6).

Some 8.2% reported they could not see well enough to read newspaper print even with glasses or contacts if they wore them. Only a small gender difference was found with 7.6% of males and 8.7% of females reporting they could not see well enough to read. Also, 15.1% reported they could not hear most of the things people say even with the use of a hearing aid, and there was a slight gender difference found since 17.3% of males and 13.6% of females reported they could not hear most of the things people say.

### **2010 COHORT 13 BASELINE SUMMARY SCORES FOR MAO HXXXXA**

The Summary Scores Table on the following page presents the mean unadjusted and adjusted PCS and MCS scores for your MAO, each MAO in the State, the State, and the HOS Total. The results presented in the table are from the *Cohort 13 Baseline analytic sample*. For detailed information about the scores, please refer to the Baseline Results section. Note that the baseline information summarized in this table is not suitable for MAO level comparisons, and should **not** be utilized for public release or marketing purposes.

**2010 COHORT 13 BASELINE SUMMARY SCORES TABLE**  
**MEAN UNADJUSTED AND ADJUSTED PCS AND MCS SCORES**  
**FOR ALL MAOs IN THE STATE, STXXXX, AND HOS TOTAL**

	<b>UNADJUSTED PCS SCORE (SD)</b>	<b>ADJUSTED PCS SCORE (SD)</b>	<b>UNADJUSTED MCS SCORE (SD)</b>	<b>ADJUSTED MCS SCORE (SD)</b>
HXXXXA	38.4 (12.8)	38.8 (6.8)	51.0 (11.6)	51.2 (4.3)
HXXXXB	39.1 (12.3)	39.3 (7.1)	51.2 (11.5)	51.5 (4.6)
HXXXXC	37.7 (12.9)	38.5 (7.4)	50.8 (11.2)	51.2 (4.7)
HXXXXD	39.2 (12.7)	39.2 (7.0)	52.5 (11.0)	51.5 (4.6)
HXXXXE	39.0 (12.6)	39.2 (6.8)	51.9 (11.2)	51.4 (4.4)
STXXXX	38.7 (12.7)	39.0 (7.0)	51.5 (11.3)	51.4 (4.5)
HOS Total	38.9 (12.4)	38.9 (7.0)	51.4 (11.4)	51.4 (4.5)

## **2010 NCQA HEDIS MEASURES FOR MAO HXXXXA**

Four 2010 NCQA HEDIS measures are reported for the HOS seniors. The 2010 NCQA HEDIS Measures Table on the following page depicts the mean rates for the four HEDIS measures for your MAO, each MAO in the State, the State, the CMS Region, and the HOS Total. The results presented in the table are from the combined *Cohort 13 Baseline* and *Cohort 11 Follow Up* data collected in 2010.

The following is a summary of the HEDIS results at the national level, which is also provided in the HEDIS Measures Table.

The 2010 Management of Urinary Incontinence in Older Adults (MUI) measure includes:

- Discussing Urinary Incontinence Rate of 58.1%
- Receiving Urinary Incontinence Treatment Rate of 36.1%

The 2010 Physical Activity in Older Adults (PAO) measure includes:

- Discussing Physical Activity Rate of 52.5%
- Advising Physical Activity Rate of 47.6%

The 2010 Fall Risk Management (FRM) measure includes:

- Discussing Fall Risk rate of 32.4%
- Managing Fall Risk Rate of 58.7%

The 2010 Osteoporosis Testing in Older Women (OTO) measure includes:

- Osteoporosis Testing in Older Women rate of 69.6%

For detailed information about the measures please refer to the NCQA HEDIS Measures section in this report.

**2010 NCQA HEDIS MEASURES TABLE**  
**PERFORMANCE FOR ALL MAOs IN THE STATE, STATEXX,**  
**CMS REGION XX, AND HOS TOTAL**

	<b>MUI DISCUSS RATE</b>	<b>MUI TREAT RATE</b>	<b>PAO DISCUSS RATE</b>	<b>PAO ADVISE RATE</b>	<b>FRM DISCUSS RATE</b>	<b>FRM MANAGE RATE</b>	<b>OTO TESTING RATE</b>
HXXXXA	58.6%	36.8%	54.7%	47.6%	30.0%	56.0%	73.8%
HXXXXB	56.8%	35.6%	54.3%	48.6%	29.8%	59.0%	73.1%
HXXXXC	56.3%	35.2%	51.2%	46.4%	31.2%	58.2%	70.4%
HXXXXD	56.4%	36.6%	55.1%	49.3%	29.9%	56.4%	75.3%
HXXXXE	60.7%	37.7%	53.6%	48.1%	32.0%	63.5%	69.8%
StateXX	57.7%	36.4%	53.8%	48.0%	30.6%	58.6%	72.5%
CMS Region XX	57.7%	36.0%	53.1%	47.7%	30.7%	58.4%	71.6%
HOS Total	58.1%	36.1%	52.5%	47.6%	32.4%	58.7%	69.6%

## BASELINE RESULTS

This report presents the Medicare HOS *2010 Cohort 13 Baseline* results for MAO HXXXXA and the HOS National Totals. Additionally, the MAO level frequency distributions for the survey fields may be found in Appendix 2 of the report. The aggregate data are provided to facilitate internal quality improvement activities. **Please be advised that the information in this report is not suitable for MAO level comparisons. Therefore, these data should not be utilized for public release or marketing purposes.**

### RESPONSE RATES AND DISTRIBUTION OF THE SAMPLE

The HOS *2010 Cohort 13 Baseline* included a random sample of 546,931 beneficiaries, including both the aged and disabled, from 471 MAOs. This number represents a 12.1% increase from the 487,861 beneficiaries sampled from 424 MAOs that participated in the HOS *2009 Cohort 12 Baseline*, which may be attributed in part to the growth in MAO participation as a result of the MMA of 2003.

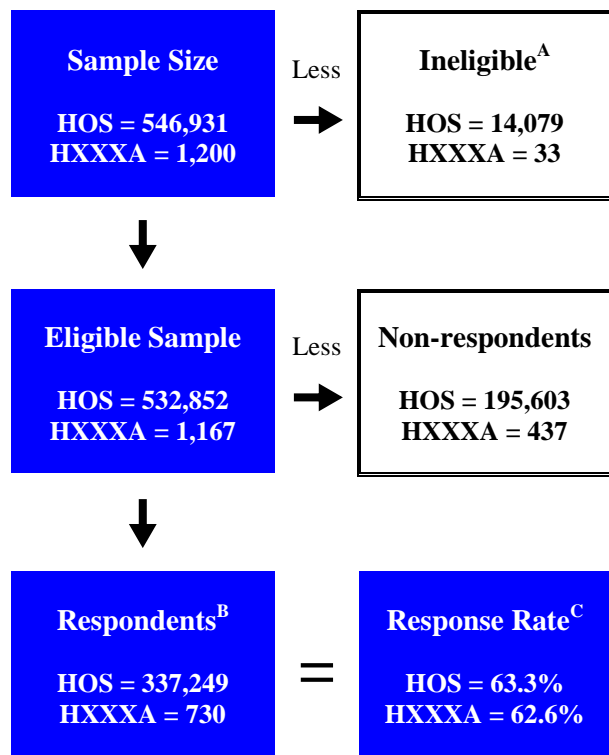
Of the 546,931 originally sampled, 14,079 were determined to be ineligible members during the survey administration. Ineligible members of the sample meet one of the following criteria: deceased; not enrolled in the MAO; have an incorrect address and phone number; or have a language barrier. The removal of the ineligible members from the total sample yields the *Cohort 13 Baseline* eligible sample of 532,852.

Of the 532,852 beneficiaries in the eligible sample, 63.3% (337,249) were respondents who completed the baseline survey. For the purposes of this report, a completed survey is defined as one that could be used to calculate a physical component summary (PCS) or mental component summary (MCS) score.

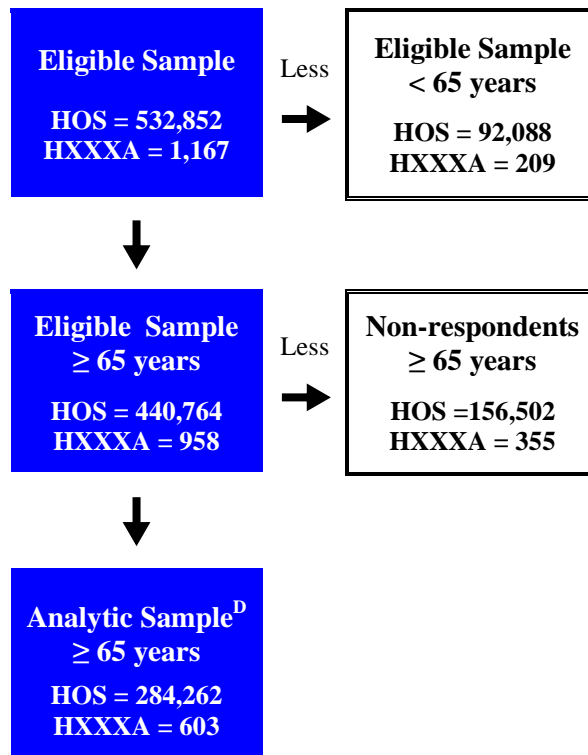
The 532,852 members of the *Cohort 13 Baseline* eligible sample included 440,764 seniors (age 65 or older). Of the 440,764 eligible seniors sampled, 284,262 completed the baseline survey. This group of seniors comprises the *Cohort 13 Baseline analytic sample*. Please refer to Figures 1 and 2 on the following page for a graphical depiction of the response rates and distribution of the sample. For MAOs with a small number of respondents **caution** should be exercised when interpreting the results.

Figure 1 illustrates the calculation of the response rates for the HOS Total and MAO HXXXA samples. Figure 2 illustrates the distribution of the eligible sample, and the process for determining the number of beneficiaries in the analytic sample for the HOS Total and MAO HXXXA. The *Cohort 13 Baseline analytic sample* is used for all analyses in this report, except for the NCQA HEDIS Measures section.

**Figure 1: 2010 Cohort 13 Baseline Response Rates for the HOS Total and MAO HXXXA**



**Figure 2: 2010 Cohort 13 Baseline Distribution of the Sample for the HOS Total and MAO HXXXA**



<sup>A</sup> Ineligible includes deceased, not enrolled in MAO, incorrect address and phone number, or language barrier

<sup>B</sup> Respondents include completed surveys for which PCS or MCS scores can be calculated

<sup>C</sup> Response Rate = [(Respondents/Eligible Sample) x 100%]

<sup>D</sup> Analytic sample includes respondents who completed the HOS in English, Spanish or Chinese language versions of the survey

Table 1 presents demographics for MAO HXXXXA and the HOS Total. The mean age for the HOS Total sample was 74.8 years (not shown in the table). The largest percentages of the HOS Total respondents within each demographic category were: 65-69 years old; female; White; married; high school graduates; had annual household incomes between \$10,000 and \$19,999; and were not Medicaid recipients.

<b>TABLE 1</b>		
<b>2010 COHORT 13 BASELINE DEMOGRAPHICS</b>		
<b>FOR MAO HXXXXA AND HOS TOTAL</b>		
<b>Demographic</b>	<b>HXXXXA</b>	<b>HOS Total</b>
<b>Age</b>	(N=603)	(N=284,262)
65-69	26.5%	29.5%
70-74	28.9%	25.5%
75-79	20.4%	19.8%
80-84	13.4%	13.9%
85+	10.8%	11.2%
<b>Gender</b>	(N=603)	(N=284,262)
Male	43.4%	41.4%
Female	56.6%	58.6%
<b>Race</b>	(N=603)	(N=284,262)
White	79.4%	81.3%
Black	12.1%	11.0%
Other/Unknown	8.5%	7.6%
<b>Marital Status</b>	(N=579)	(N=271,038)
Married	52.2%	53.7%
Widowed	25.4%	27.8%
Divorced or Separated	18.5%	14.7%
Never Married	4.0%	3.8%
<b>Education</b>	(N=574)	(N=268,941)
Did Not Graduate HS	31.4%	28.1%
High School Graduate	32.2%	35.2%
Some College	20.6%	21.4%
4 Year Degree or Beyond	15.9%	15.3%
<b>Annual Household Income</b>	(N=529)	(N=249,363)
Less than \$10,000	13.2%	14.8%
\$10,000 - \$19,999	25.1%	23.5%
\$20,000 - \$29,999	18.0%	18.1%
\$30,000 - \$49,999	20.0%	19.0%
\$50,000 or More	11.9%	13.0%
Don't Know	11.7%	11.5%
<b>Medicaid Status</b>	(N=603)	(N=284,262)
Medicaid	18.4%	18.4%
Non-Medicaid	81.6%	81.6%

## PHYSICAL AND MENTAL COMPONENT SUMMARY SCORES

The health status measures for the HOS 2.0 are the PCS score and the MCS score. These scores are calculated from the VR-12, which asks respondents about their usual activities and how they would rate their health. The VR-12 is a barometer of physical and mental health status.

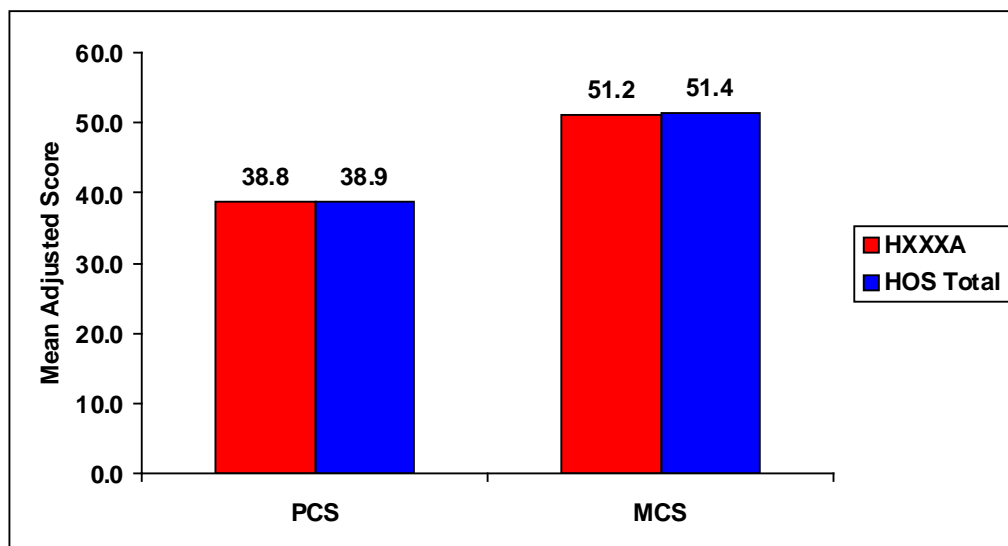
Concepts included in the measure are: physical functioning, role-physical, bodily pain, general health, vitality, role-emotional, social functioning, and mental health. A higher PCS or MCS score reflects better health status.

The PCS and MCS scores are case-mix adjusted to allow for equitable comparisons across all MAOs. Case-mix adjustment is a statistical technique that controls for differences in demographics, socioeconomic characteristics, chronic medical conditions, and HOS study design variables. For additional information about case-mix adjustment and scoring for the VR-12, please refer to Appendix 1.

Figure 3 depicts the mean adjusted PCS and MCS scores for MAO HXXXXA and the HOS Total. For the HOS Total, the mean PCS of 38.9 indicates that the analytic sample of seniors have physical health status that is substantially lower, on average, and more than one standard deviation (SD) less than the mean PCS of 50 (SD=10) for the general U.S. population. The mean MCS of 51.4 indicates that mental health status for the seniors is slightly higher, on average, than the mean MCS of 50 (SD=10) in the general U.S. population.

In the remainder of the Baseline Results section where summary scores are displayed with other measures, the unadjusted scores are utilized. For additional mean unadjusted and adjusted PCS and MCS scores for each MAO in the State, please refer to the Executive Summary section.

**Figure 3: 2010 Cohort 13 Baseline Mean Adjusted PCS and MCS Scores for MAO HXXXXA and HOS Total**



Evidence from recent studies suggests the presence of age, racial and socioeconomic health differences among Medicare eligible beneficiaries.<sup>10,11,12,13</sup> Table 2 presents the mean unadjusted PCS and MCS scores by categories of age, race, and annual household income for MAO HXXXA and the HOS Total, and illustrates these differences. In general, higher PCS and MCS scores tend to be associated with being younger, White, and having a higher annual household income. As previously indicated, PCS scores decreased with increasing age across all age groups of the HOS Total. For MCS, lower scores occurred primarily in the older age groups.

<b>TABLE 2</b>				
<b>2010 COHORT 13 BASELINE MEAN UNADJUSTED PCS AND MCS SCORES</b>				
<b>BY SELECTED DEMOGRAPHIC CHARACTERISTICS</b>				
<b>FOR MAO HXXXA AND HOS TOTAL</b>				
	<b>Mean (SD) Unadjusted PCS</b>		<b>Mean (SD) Unadjusted MCS</b>	
	<b>HXXXA</b>	<b>HOS Total</b>	<b>HXXXA</b>	<b>HOS Total</b>
<b>Age</b>				
65-69	40.3 (12.8)	41.3 (12.2)	51.9 (10.8)	51.9 (11.1)
70-74	41.3 (12.1)	40.6 (12.0)	51.5 (11.0)	52.2 (10.9)
75-79	35.5 (12.9)	38.5 (12.0)	49.7 (12.9)	51.5 (11.2)
80-84	36.8 (12.7)	36.5 (11.9)	51.6 (11.7)	50.7 (11.6)
85+	33.2 (12.0)	32.5 (11.8)	49.1 (12.2)	48.6 (12.7)
<b>Race</b>				
White	38.6 (13.2)	39.3 (12.5)	51.7 (11.5)	52.0 (11.2)
Black	36.6 (10.9)	36.5 (11.8)	46.9 (12.1)	48.8 (11.7)
Other/Unknown	38.3 (11.9)	38.0 (11.7)	49.7 (11.0)	48.1 (11.9)
<b>Income</b>				
Less than \$10,000	36.9 (12.3)	34.6 (11.9)	46.0 (10.3)	46.7 (12.5)
\$10,000 - \$19,999	33.8 (12.8)	36.3 (12.2)	47.7 (13.3)	49.4 (11.9)
\$20,000 - \$29,999	35.5 (12.6)	38.9 (12.1)	53.3 (10.5)	51.9 (10.9)
\$30,000 - \$49,999	42.6 (11.7)	41.6 (11.7)	55.4 (8.9)	53.8 (9.9)
\$50,000 or More	45.4 (11.7)	44.9 (11.0)	55.0 (7.7)	55.5 (8.6)
Don't know	37.2 (12.0)	37.9 (12.3)	48.8 (11.9)	50.7 (11.6)

## GENERAL HEALTH AND COMPARATIVE HEALTH

Figures 4, 5, and 6 depict the distribution of responses to the following three items: the participant's self-reported general health status; self-reported physical health compared to one year ago; and self-reported mental health compared to one year ago. Participants who indicated that their general health was "Fair" or "Poor," or that their physical or mental health compared to one year ago was "Slightly Worse" or "Much Worse" are known to be at increased risk for near future hospitalization, use of mental health services, and/or mortality.<sup>14, 15</sup>

Figure 4 displays the respondent's self-reported general health status for your MAO and the HOS Total. At the national level, approximately 68% of the respondents rated their general health as "Good", "Very Good", or "Excellent", while 31% indicated that their general health was "Fair" or "Poor."

As a comparison to the HOS results, a slightly higher percentage of 75% was found for the U.S. population age 65 and older who rated their health in the "Good" or better categories during the 2006 to 2008 study period, as reported by the Federal Interagency Forum on Aging-Related Statistics.<sup>9</sup> Older men and women were found to report similar levels of health, although the proportion reporting in the "Good" or better categories decreased among the oldest age groups. Regardless of age, older non-Hispanic White men and women were more likely to report ratings in the "Good" or better categories than either non-Hispanic Blacks or Hispanics.<sup>9</sup>

**Figure 4: 2010 Cohort 13 Baseline General Health Status for MAO HXXXA and HOS Total**

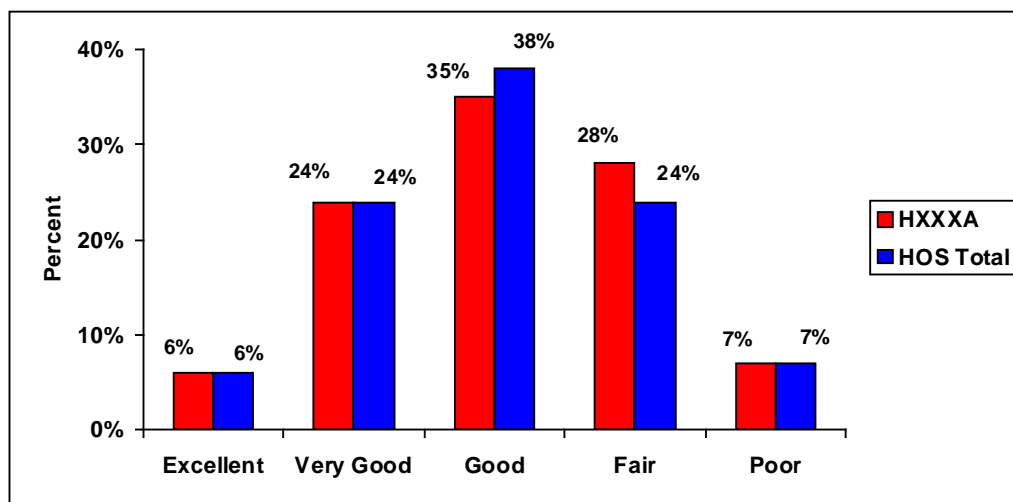


Figure 5 displays the respondents' self-reported physical health status as compared to one year ago for your MAO and the HOS Total. Some 28% of the HOS Total reported that their physical health compared to one year ago was "Slightly Worse" or "Much Worse."

**Figure 5: 2010 Cohort 13 Baseline Physical Health Compared to One Year Ago for MAO HXXXA and HOS Total**

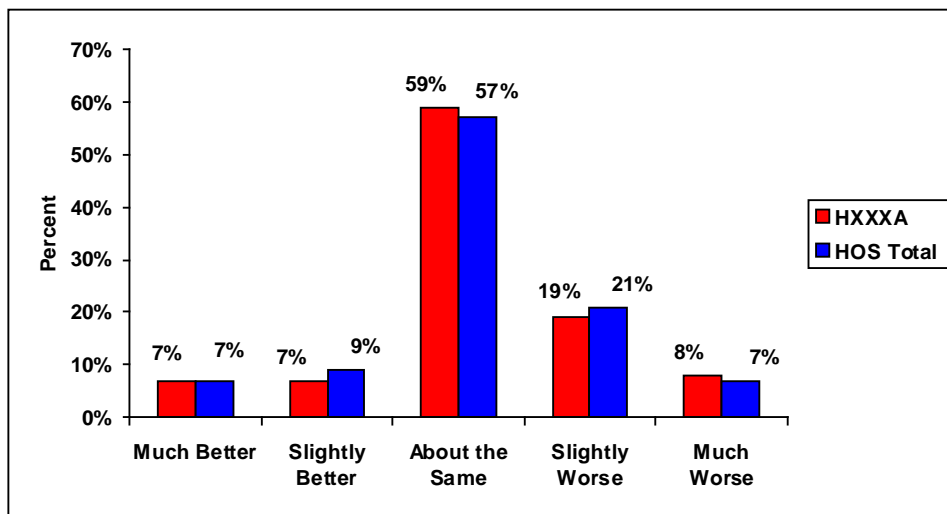
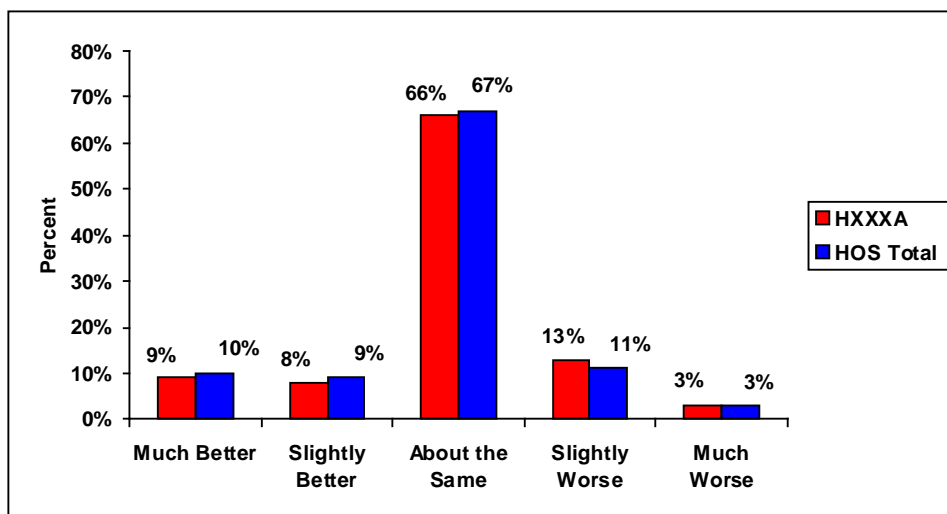


Figure 6 displays the respondents' self-reported mental health status as compared to one year ago for your MAO and the HOS Total. Some 14% of the HOS Total reported that their mental health compared to one year ago was "Slightly Worse" or "Much Worse."

**Figure 6: 2010 Cohort 13 Baseline Mental Health Compared to One Year Ago for MAO HXXXA and HOS Total**



## DEPRESSION

Depression is undetected and under-diagnosed in the majority of the elderly Medicare population, and is a significant health problem that has been linked to poor health outcomes.<sup>16, 17</sup> Additionally, depression is significantly associated with other psychological dysfunction, as well as the presence of common chronic medical conditions, such as diabetes.<sup>18, 19</sup>

Individuals with a positive depression screen may be at risk for depressive disorders. For reports prior to the 2008 HOS, three questions from the survey were utilized to create the screen. Beginning with the 2008 HOS, a new question (Q39) has been added as part of the screening for depression risk. For this report a Medicare beneficiary is considered to have a positive depression screen when he or she answers “Yes” to *any* of the four depression questions (Questions 36, 37, 38 or 39) summarized in Table 3 below.

Table 3 depicts the percentage of beneficiaries with a positive depression screen, and the number answering “Yes” to the four individual depression questions for MAO HXXXXA and the HOS Total. For the HOS Total, 26.6% responded affirmatively to having been depressed at least one or two days in the past week and 35.5% had a positive depression screen.

<b>TABLE 3</b>				
<b>2010 COHORT 13 BASELINE FREQUENCY OF POSITIVE DEPRESSION SCREEN FOR MAO HXXXXA AND HOS TOTAL</b>				
<b>Depression Screening Questions</b>	<b>HXXXXA</b>		<b>HOS Total</b>	
	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>
Depressed at least one or two days in the past week	152	27.8%	67,629	26.6%
Two weeks in the past year feeling sad, blue or depressed	147	25.6%	64,220	23.7%
Depressed or sad much of the time in the past year	103	17.9%	41,938	15.5%
Two years or more in life feeling depressed or sad most days	98	17.1%	45,112	16.8%
<b>Positive Depression Screen*</b>	211	36.3%	97,139	35.5%

\* A positive depression screen is defined as answering “Yes” to *any* of the four depression questions listed.

## CHRONIC MEDICAL CONDITIONS

An important feature of the Medicare HOS is the ability to assess various chronic medical conditions in the Medicare Advantage population. For example, research on chronic conditions in the Medicare managed care elderly indicated that arthritis of the hip/knee contributed to the greatest decline in beneficiaries' physical health, when compared to other chronic conditions in the HOS.<sup>20</sup> According to recent research, the prevalence of certain chronic conditions differs by gender. Women report higher levels of arthritis and hypertension than men, and men report higher levels of heart disease and cancer.

Table 4 shows the prevalence of the 14 chronic medical conditions from the *Cohort 13 Baseline* survey in descending order of HOS Total prevalence. The chronic medical conditions are assessed when beneficiaries positively respond to the question, "Has a doctor ever told you that you had (the specified condition)?"

In Table 4, the most prevalent chronic condition in the HOS Total sample is hypertension which affects 67.4% or about two-thirds of the seniors. Arthritis of the hip/knee and arthritis of the hand/wrist are second (43.1%) and third (38.3%), respectively. The fourth most prevalent condition is diabetes, affecting 27.4% of the HOS Total sample. Sciatica is reported by 23.2%; other heart conditions (problems with heart valves or the rhythm of the heartbeat) is reported by 22.5%; and osteoporosis is reported by 21.9%. Gastrointestinal disease, such as Crohn's disease and ulcerative colitis, is the least prevalent of the conditions assessed.

<b>TABLE 4</b>				
<b>2010 COHORT 13 BASELINE PREVALENCE OF CHRONIC MEDICAL CONDITIONS FOR MAO HXXXXA AND HOS TOTAL</b>				
<b>Medical Condition</b>	<b>HXXXXA</b>		<b>HOS Total</b>	
	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>
Hypertension	396	68.3%	184,265	67.4%
Arthritis - Hip or Knee	264	45.8%	117,030	43.1%
Arthritis - Hand or Wrist	227	39.5%	103,657	38.3%
Diabetes	144	24.9%	74,500	27.4%
Sciatica	145	25.3%	62,599	23.2%
Other Heart Conditions	127	22.0%	60,732	22.5%
Osteoporosis	143	24.9%	58,991	21.9%
Pulmonary Disease	91	15.8%	44,261	16.3%
Any Cancer (except skin cancer)	90	15.5%	41,306	15.2%
Coronary Artery Disease	78	13.7%	40,556	15.1%
Myocardial Infarction	66	11.4%	29,620	10.9%
Congestive Heart Failure	51	8.9%	26,240	9.7%
Stroke	52	9.1%	25,470	9.4%
Gastrointestinal Disease	38	6.6%	14,215	5.3%

Table 5 illustrates the distribution of beneficiaries by number of chronic medical conditions including categories of none, one, two, and three or more conditions for MAO HXXXXA. Some 39.4% of beneficiaries in the HOS Total sample have four or more chronic medical conditions and only 8.4% have none.

<b>TABLE 5</b>				
<b>2010 COHORT 13 BASELINE NUMBER OF CHRONIC MEDICAL CONDITIONS FOR MAO HXXXXA AND HOS TOTAL</b>				
<b>Number of Chronic Medical Conditions</b>	<b>HXXXXA</b>		<b>HOS Total</b>	
	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>
None	42	7.2%	23,092	8.4%
1 Condition	80	13.7%	42,933	15.6%
2 Conditions	126	21.5%	52,240	18.9%
3 Conditions	100	17.1%	48,692	17.7%
4 or More Conditions	238	40.6%	108,723	39.4%

### **ACTIVITIES OF DAILY LIVING**

Six Activities of Daily Living (ADLs) are included in the HOS to examine reported difficulty with the performance of daily tasks. ADLs include bathing, dressing, eating, getting in or out of chairs, walking, and using the toilet.

Table 6 on the following page highlights the prevalence of impairments<sup>E</sup> in performing a daily activity for beneficiaries in MAO HXXXXA and the HOS Total. The greatest number of beneficiaries in the HOS Total reported impairment with walking (33.2%), followed by getting in or out of chairs (23.7%), and only 6.0% indicated difficulty with eating.

The results of the National Health and Nutrition Examination Survey (NHANES) I Epidemiologic Follow-Up study, which assessed mortality and functional limitations among U.S. adults aged 25-74, indicated a similar pattern of impairment to that found in the HOS with the greatest proportion of respondents having difficulty with walking and the least proportion of respondents having difficulty with eating.<sup>21</sup> Other research findings suggest that loss of functional capabilities in the elderly follow a hierarchical pattern with locomotion being the first ability to be lost, followed by reaching, thinking, hearing, vision, and dexterity.<sup>22</sup>

<sup>E</sup> Impairment is defined as beneficiaries reporting either difficulty or inability to perform an ADL.

TABLE 6 2010 COHORT 13 BASELINE PREVALENCE OF IMPAIRMENTS IN ADLS FOR MAO HXXXXA AND HOS TOTAL				
Activity of Daily Living	HXXXXA		HOS Total	
	N	Percent	N	Percent
Walking	198	34.0%	90,862	33.2%
Getting in or out of chairs	147	25.2%	64,671	23.7%
Bathing	113	19.5%	46,165	16.8%
Dressing	90	15.5%	37,370	13.6%
Using the toilet	74	12.8%	28,317	10.4%
Eating	35	6.0%	16,495	6.0%

Figure 7 presents the mean unadjusted PCS scores for MAO HXXXXA and the HOS Total by level of impairment in walking ability. Beneficiaries who reported impairment in walking ability had substantially lower mean PCS scores (27.9) than beneficiaries who reported no impairment (44.5).

**Figure 7: 2010 Cohort 13 Baseline Mean Unadjusted PCS Scores by Level of Impairment in Walking Ability for MAO HXXXXA and HOS Total**

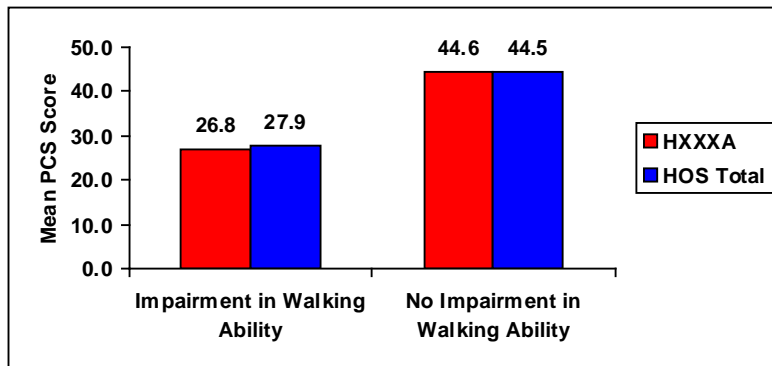


Figure 8 presents the mean unadjusted MCS scores for MAO HXXXXA and the HOS Total by level of impairment in walking ability. Beneficiaries who reported impairment in walking ability also had lower mean MCS scores (45.3) than beneficiaries who reported no impairment (54.4).

**Figure 8: 2010 Cohort 13 Baseline Mean Unadjusted MCS Scores by Level of Impairment in Walking Ability for MAO HXXXXA and HOS Total**

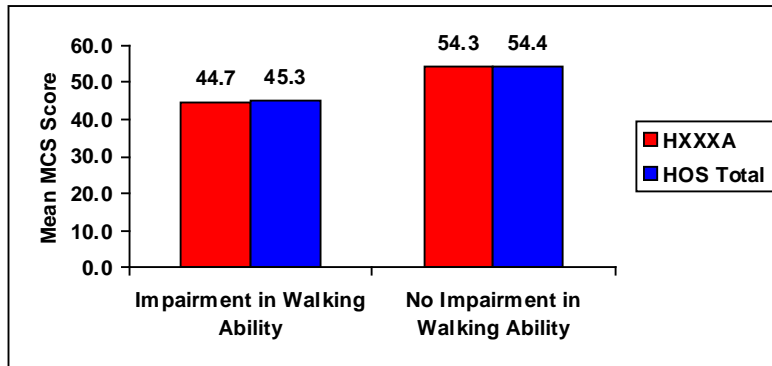


Table 7 shows the number of ADL impairments including categories of none, one, two, and three or more ADL impairments for beneficiaries in MAO HXXXXA and the HOS Total. For the HOS Total, 38.0% of beneficiaries reported impairment with at least one daily activity as compared to the 30.5% of non-institutionalized beneficiaries who were found to have at least one ADL limitation in the 2009 Medicare Current Beneficiary Survey (MCBS), which is a nationally representative sample of all Medicare beneficiaries.<sup>23</sup>

<b>TABLE 7</b>				
<b>2010 COHORT 13 BASELINE NUMBER OF ADL IMPAIRMENTS FOR MAO HXXXXA AND HOS TOTAL</b>				
<b>Number of ADL Impairments</b>	<b>HXXXXA</b>		<b>HOS Total</b>	
	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>
None	351	59.5%	171,345	62.0%
1 ADL Impairment	68	11.5%	34,495	12.5%
2 ADL Impairments	60	10.2%	25,916	9.4%
3 or More ADL Impairments	111	18.8%	44,706	16.2%

Figure 9 indicates that beneficiaries in MAO HXXXA who have a greater number of ADL impairments tend to have substantially lower unadjusted PCS scores.

**Figure 9: 2010 Cohort 13 Baseline Mean Unadjusted PCS Scores by Number of ADL Impairments for MAO HXXXA and HOS Total**

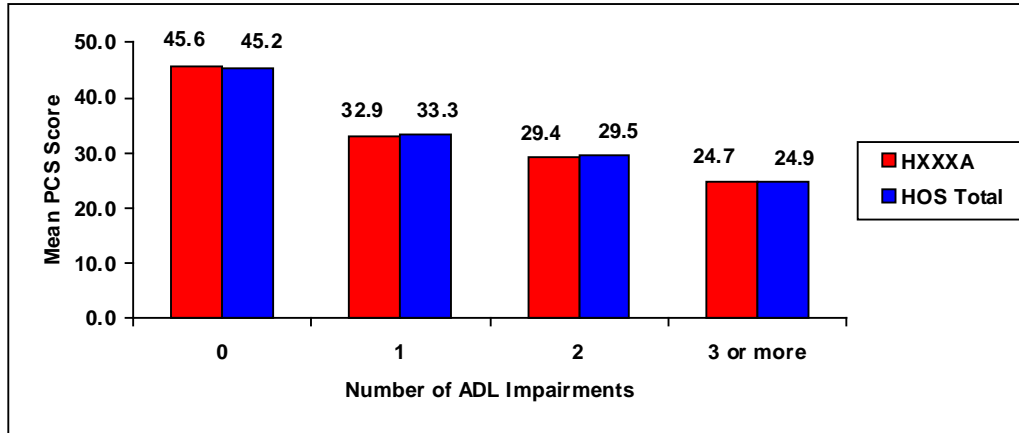
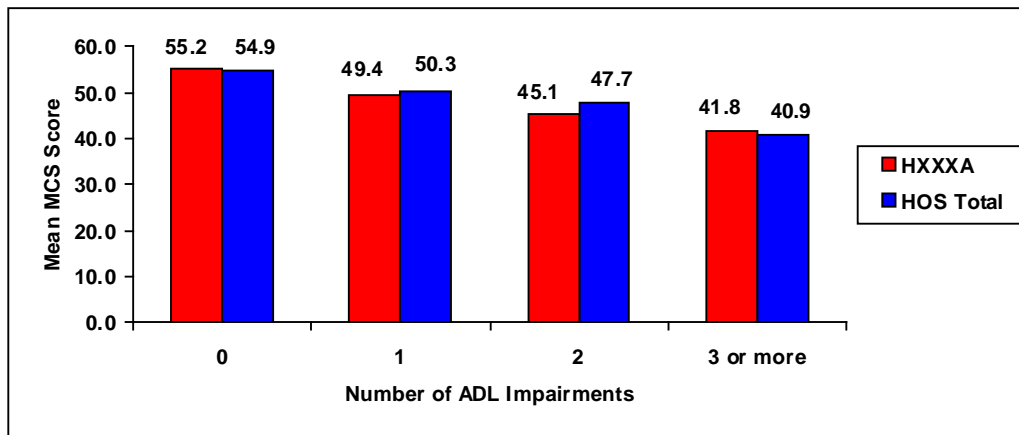


Figure 10 indicates that unadjusted MCS scores are also lower for those with a greater number of ADL impairments in MAO HXXXA.

**Figure 10: 2010 Cohort 13 Baseline Mean Unadjusted MCS Scores by Number of ADL Impairments for MAO HXXXA and HOS Total**



## HEALTHY DAYS MEASURES

Since 2003, the HOS instrument has incorporated three questions from the Centers for Disease Control and Prevention's (CDC's) Behavioral Risk Factor Surveillance System (BRFSS). The questions include the number of days in the previous 30 days that physical health was not good, mental health was not good, and activities were limited due to poor physical or mental health. These three questions form the Healthy Days Measures and assess population based health-related quality of life. The inclusion of these questions, along with a standard question on general self-rated health, allows a comparison between HOS and BRFSS results.

The BRFSS is a continuous, state-based, random telephone survey of community dwelling U.S. adults aged 18 and older. The survey is administered and supported by the Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. Beginning in 2000, the Healthy Days Measures were also added to the examination component of the NHANES.<sup>24</sup> In recent years, several organizations have found these Healthy Days Measures useful at the national, state, and community levels for (1) identifying health disparities, (2) tracking population trends, and (3) building broad coalitions around a measure of population health compatible with the World Health Organization's definition of health. One of the uses of the BRFSS Healthy Days Measures and data was to track overall progress at the state and local levels on achieving the two major goals of Healthy People 2010: (1) increase quality and years of healthy life; and (2) eliminate health disparities.

For additional information regarding the Healthy Days Measures and findings, please visit the CDC Health-Related Quality of Life (HRQOL) website at [www.cdc.gov/hrqol](http://www.cdc.gov/hrqol). Comparative national and state-level Healthy Days Measures data, including demographic breakdowns by age, sex, or race/ethnicity groups within each state, may be found on the Prevalence Data page of the website at <http://apps.nccd.cdc.gov/HRQOL>.

For information about Healthy People 2010, please visit the U.S. Department of Health and Human Services (DHHS) website at <http://www.healthypeople.gov/2010/>. Healthy People 2020 is currently under development and will reflect assessments of major determinants of health and wellness, changing public health priorities, and emerging issues related to our nation's health preparedness and prevention. For more information about Healthy People 2020, please visit the U.S. DHHS website at <http://healthypeople.gov/2020/default.aspx>.

For this report, the number of unhealthy days reported has been categorized into three levels for each measure: 0 days, 1-13 days, and 14-30 days. Additionally, the mean number of days for each measure is presented.

Table 8 on the following page provides the frequency distributions of Healthy Days Measures for the MAO and HOS Total compared to the community resident senior population represented in the 2010 BRFSS national level prevalence data.<sup>25</sup> The Healthy Days Measures include the number of physically unhealthy days, the number of mentally unhealthy days, and the number of days with activity limitations reported during the previous 30 days.

<b>TABLE 8</b> <b>2010 COHORT 13 BASELINE FREQUENCY DISTRIBUTION OF HEALTHY DAYS</b> <b>MEASURES FOR MAO HXXXA AND HOS TOTAL</b> <b>RELATIVE TO 2010 CDC BRFSS 65+ POPULATION</b>			
Healthy Days Measures	HXXXA	HOS Total	2010 CDC BRFSS*
<b>Physically Unhealthy Days</b>	(N=558)	(N=264,693)	(N=142,870)
None	55.2%	55.9%	61.4%
1-13	21.7%	22.7%	21.1%
14-30	23.1%	21.5%	17.5%
<b>Mentally Unhealthy Days</b>	(N=566)	(N=266,342)	(N=144,952)
None	65.5%	68.0%	79.2%
1-13	18.7%	19.2%	13.8%
14-30	15.7%	12.8%	6.9%
<b>Days with Activity Limitations</b>	(N=561)	(N=266,388)	(N=146,072)
None	69.0%	70.6%	80.4%
1-13	13.5%	14.0%	10.4%
14-30	17.5%	15.4%	9.2%

\* Note the following states did not collect all 12 months of the 2010 CDC BRFSS prevalence data: Alaska collected 9 months; Illinois collected 10 months; and the District of Columbia and Rhode Island collected 11 months of data.

Figure 11 depicts the relationship between the reported number of days with activity limitations during the previous 30 days and mean unadjusted PCS scores. Beneficiaries who have higher numbers of days with activity limitations tend to have lower PCS scores.

**Figure 11: 2010 Cohort 13 Baseline Mean Unadjusted PCS Scores by Number of Days with Activity Limitations for MAO HXXXA and HOS Total**

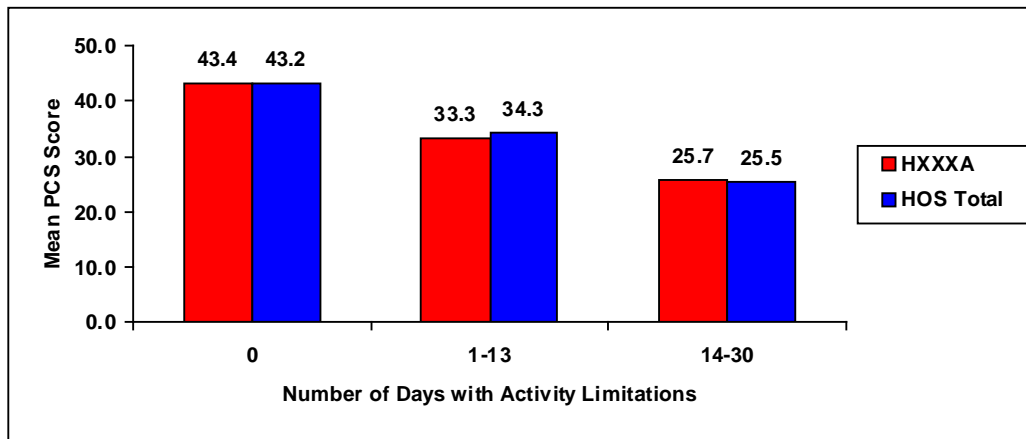
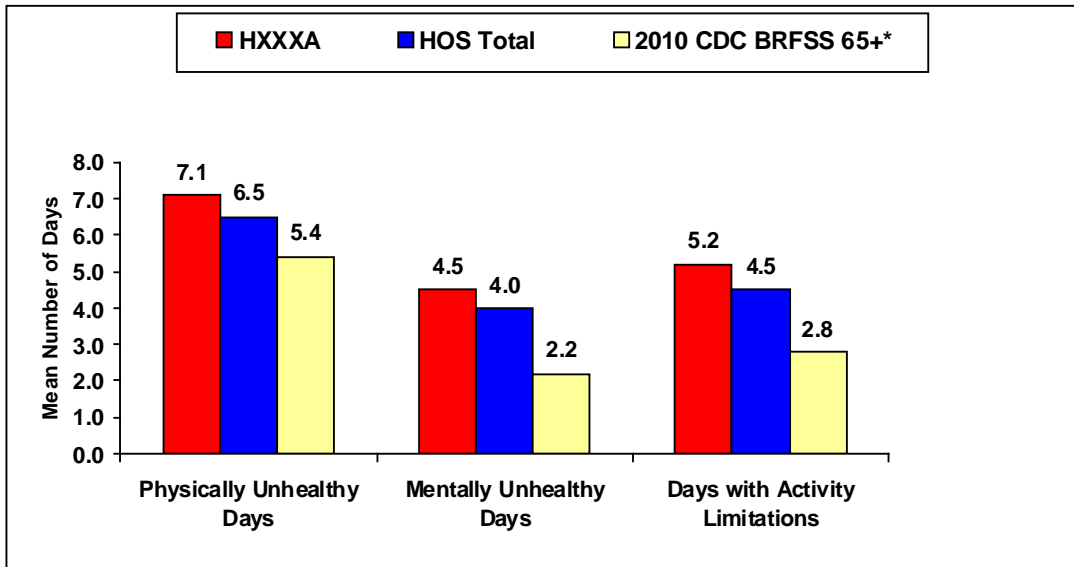


Figure 12 presents the mean numbers of reported physically unhealthy days, mentally unhealthy days, and days with activity limitations during the previous 30 days for beneficiaries age 65 and older in MAO HXXXA and for the HOS Total, as well as for beneficiaries age 65 and older who responded to the BRFSS.

**Figure 12: 2010 Cohort 13 Baseline Numbers for Healthy Days Measures for MAO HXXXA and HOS Total, Relative to 2010 CDC BRFSS 65+ Population**



\* Note the following states did not collect all 12 months of the 2010 CDC BRFSS prevalence data: Alaska collected 9 months; Illinois collected 10 months; and the District of Columbia and Rhode Island collected 11 months of data.

## CLINICAL MEASURES

The HOS collects information on several clinical measures including height, weight, arthritis pain, and the ability to see and hear most things.

### Body Mass Index

Height and weight categories are used to calculate BMI, which is a measure of body fat in adult men and women. People with a BMI over 30 are at a greater risk for several chronic conditions including: hypertension, dyslipidemia, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, and some cancers.<sup>26</sup> Additionally, being overweight or obese has been shown to accelerate the aging process.<sup>27</sup> The prevalence of obesity among adults has risen significantly over the past 20 years, particularly among the elderly population.<sup>28</sup>

A recent study utilizing the HOS 2006-2008 Cohort 9 Merged Baseline and Follow Up data explored the prevalence of obesity in MA beneficiaries age 65 or older.<sup>5</sup> In this study, most of the reported health conditions were significantly more prevalent among obese than normal weight beneficiaries, in particular, high blood pressure (75.8% of obese vs. 53.9% of normal weight), diabetes (34.8% vs. 12.7%), and arthritis of the hip or knee (55.3% vs. 31.3%). Exceptions were osteoporosis and stroke. Osteoporosis was significantly less prevalent among the obese (16.1% of obese vs. 26.9% of normal weight). The prevalence of stroke increased only slightly with BMI (7.3% for normal weight, 7.4% for overweight, and 7.9% for obese). The results also indicated that obese beneficiaries had substantially greater limitations with ADLs than normal weight beneficiaries.<sup>5</sup>

Table 9 shows the distribution of BMI categories including underweight (BMI less than 20), normal weight (BMI of 20-24.99), overweight (BMI of 25-29.99), obese (BMI of 30-34.99), and morbid obesity (BMI of 35 or more) for MAO HXXXXA and the HOS Total. BMI is calculated as:  $BMI = [\text{weight in pounds}/(\text{height in inches})^2] \times 703$ , which uses the height and midpoint of weight category to produce the standard measure of  $\text{kg}/\text{m}^2$  units. At the national level, the largest percentage of seniors (37.8%) was in the overweight category.

<b>TABLE 9</b>				
<b>2010 COHORT 13 BASELINE DISTRIBUTION OF BMI CATEGORIES FOR MAO HXXXXA AND HOS TOTAL</b>				
<b>BMI Category</b>	<b>HXXXXA</b>		<b>HOS Total</b>	
	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>
Underweight (<20)	38	6.6%	15,651	5.8%
Normal (20-24.99)	182	31.8%	76,567	28.5%
Overweight (25-29.99)	193	33.7%	101,486	37.8%
Obese (30-34.99)	103	18.0%	49,411	18.4%
Morbid Obesity (≥35)	56	9.8%	25,082	9.4%

Table 10 shows the distribution of BMI categories by gender for MAO HXXXXA and the HOS Total. There was a substantially higher percentage of males than females in the overweight category (46.6% of males vs. 31.6% of females). There were slightly higher percentages of females in the extreme categories of underweight (7.7% of females vs. 3.2% of males) and morbid obesity (10.7% of females vs. 7.4% of males), as well as in the normal weight category (31.5% of females vs. 24.4% of males). The percentages were nearly equal in the obese category with 18.5% of females vs. 18.4% of males.

<b>TABLE 10</b>								
<b>2010 COHORT 13 BASELINE DISTRIBUTION OF BMI CATEGORIES BY GENDER FOR MAO HXXXXA AND HOS TOTAL</b>								
<b>BMI Category</b>	<b>HXXXXA</b>				<b>HOS Total</b>			
	<b>Male</b>		<b>Female</b>		<b>Male</b>		<b>Female</b>	
	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>	<b>N</b>	<b>Percent</b>
Underweight (<20)	10	4.0%	28	8.6%	3,544	3.2%	12,107	7.7%
Normal (20-24.99)	70	28.3%	112	34.5%	27,206	24.4%	49,361	31.5%
Overweight (25-29.99)	103	41.7%	90	27.7%	52,038	46.6%	49,448	31.6%
Obese (30-34.99)	38	15.4%	65	20.0%	20,507	18.4%	28,904	18.5%
Morbid Obesity (≥35)	26	10.5%	30	9.2%	8,306	7.4%	16,776	10.7%

Table 11 presents the mean unadjusted PCS and MCS scores by BMI categories for MAO HXXXXA and the HOS Total. At the national level, beneficiaries in the normal and overweight groups have higher mean PCS and MCS scores than those categorized as underweight and morbidly obese, who tend to have low PCS and MCS scores on average. Those in the obese category have lower mean PCS and MCS compared to the normal and overweight groups; however, their average scores are higher than those in the extreme weight categories of underweight and morbid obesity.

<b>TABLE 11</b>				
<b>2010 COHORT 13 BASELINE MEAN UNADJUSTED PCS AND MCS SCORES BY BMI CATEGORIES FOR MAO HXXXXA AND HOS TOTAL</b>				
<b>BMI CATEGORY</b>	<b>Mean (SD) Unadjusted PCS</b>		<b>Mean (SD) Unadjusted MCS</b>	
	<b>HXXXXA</b>	<b>HOS Total</b>	<b>HXXXXA</b>	<b>HOS Total</b>
Underweight (<20)	31.1 (13.5)	37.0 (13.2)	46.0 (12.1)	48.5 (12.7)
Normal (20-24.99)	41.4 (12.0)	40.8 (12.2)	52.3 (11.1)	51.7 (11.1)
Overweight (25-29.99)	40.2 (12.4)	40.5 (11.9)	52.3 (10.3)	52.3 (10.8)
Obese (30-34.99)	36.8 (12.8)	37.2 (12.0)	49.6 (12.8)	51.3 (11.4)
Morbid Obesity (≥35)	31.4 (11.3)	32.5 (11.7)	49.8 (11.9)	49.4 (12.2)

Table 12 shows the mean number of chronic conditions by BMI categories for MAO HXXXA and the HOS Total. Beneficiaries in the obese and morbidly obese groups tend to have more chronic conditions (approximately four conditions) than the underweight, normal and overweight groups which have an average of three chronic conditions.

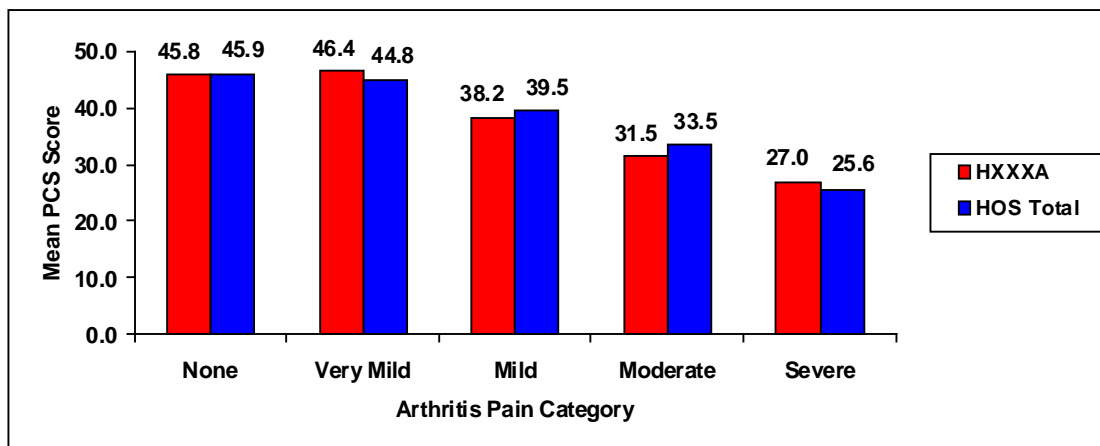
<b>TABLE 12</b>		
<b>2010 COHORT 13 BASELINE MEAN NUMBER OF CHRONIC CONDITIONS BY BMI CATEGORIES FOR MAO HXXXA AND HOS TOTAL</b>		
<b>BMI CATEGORY</b>	<b>Mean (SD) Number of Chronic Conditions</b>	
	<b>HXXXA</b>	<b>HOS Total</b>
Underweight (<20)	4.0 (2.8)	3.0 (2.2)
Normal (20-24.99)	2.8 (2.1)	2.9 (2.1)
Overweight (25-29.99)	3.2 (2.0)	3.1 (2.1)
Obese (30-34.99)	3.6 (2.1)	3.6 (2.2)
Morbid Obesity (≥35)	4.1 (2.1)	4.2 (2.3)

### Arthritis Pain

Arthritis is one of the most common chronic medical conditions among seniors. Although 24.7% of beneficiaries in the HOS Total reported they had no arthritis pain, the following percentages reported having arthritis pain by level of severity (percentages not shown in a table): very mild (18.3%), mild (20.2%), moderate (26.6%) and severe (10.2%).

Figure 13 shows the relationship between mean unadjusted PCS scores and categories of arthritis pain for MAO HXXXA and the HOS Total. The mean unadjusted PCS score of 45.9 was found for those who reported no pain. As expected, lower mean PCS scores were found for beneficiaries with any level of pain, and particularly for those with moderate pain (33.5) or severe pain (25.6).

**Figure 13: 2010 Cohort 13 Baseline Mean Unadjusted PCS Scores by Category of Arthritis Pain for MAO HXXXA and HOS Total**



More than 22% of adults report having arthritis, according to data from the National Health Interview Survey.<sup>29</sup> The results were obtained from the 2007-2009 Sample Adult Core components of the survey that estimated average annual arthritis prevalence in the civilian, non-institutionalized U.S. population age 18 or older. Significantly higher age-adjusted prevalence of arthritis was found in women (24.3%) than in men (18.3%). Arthritis prevalence increased with age and was higher among women than men in every age group (e.g., over 58% of women vs. 46% of men in the 75-84 year age group). In addition, more than 40% of the adults with arthritis report activity limitations. The prevalence of arthritis increases as body weight increases. Obesity is known to be a risk factor for the development and progression of knee osteoarthritis. Losing even modest amounts of weight (e.g., 11 pounds) can reduce the risk of getting arthritis and improve arthritis pain, function and quality of life.<sup>29</sup>

### Vision and Hearing

Vision and hearing impairments are among the most prevalent chronic health conditions affecting older adults, and have been associated with a greater risk of falls and poor physical functioning.<sup>30, 31, 32</sup> Hearing problems may also be associated with balance disorders. Falls are a leading cause of death in older adults.<sup>33</sup> Additionally, poor vision is associated with depression and the need for nursing home care. Costs of poor vision to Medicare exceed \$2 billion each year in non-related health care problems, such as falls and depression.<sup>34</sup> Hearing loss is the third most prevalent chronic condition in older adults and has effects on physical and mental health, and patient quality of life.<sup>22, 35, 36</sup>

In the HOS, beneficiaries respond “Yes” or “No” when asked if they can see well enough to read newspaper print (with glasses or contacts if that’s how they see best), and asked if they can hear most things people say (with a hearing aid if that’s how they hear best). For the HOS Total, 8.2% of respondents in the analytic sample reported they could not see well enough to read newspaper print even with glasses or contacts if they wore them, and 15.1% reported they could not hear most of the things people say even with the use of a hearing aid (percentages are not in a table). The following two figures provide additional information for males and females.

Figure 14 provides the percentages of male and female respondents for MAO HXXXXA and the HOS Total who reported vision problems. Some 7.6% of males and 8.7% of females in the HOS Total sample indicated having vision problems.

**Figure 14: 2010 Cohort 13 Baseline Percentage Unable to Read Newspaper Print for MAO HXXXXA and HOS Total by Gender**

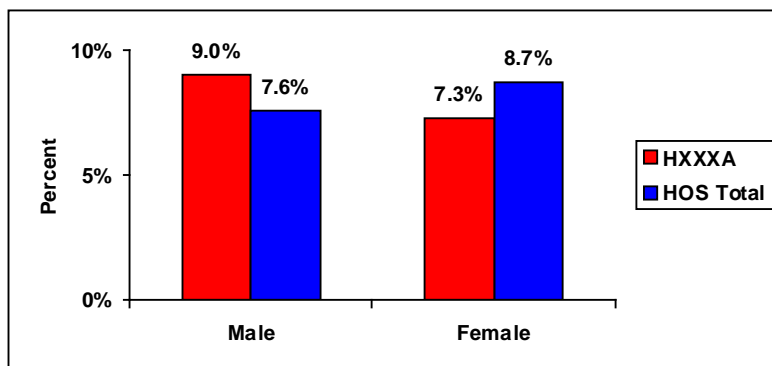
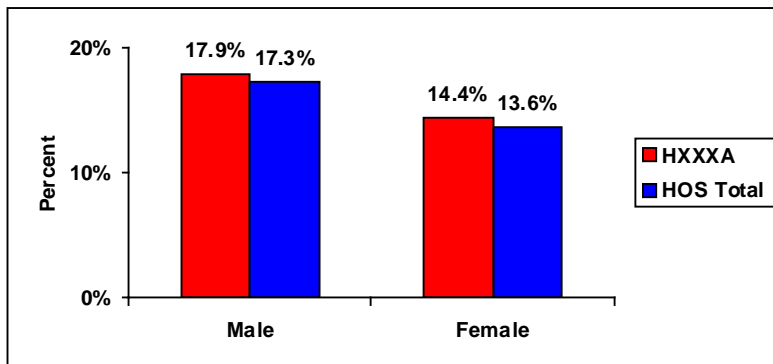


Figure 15 provides the percentages of male and female respondents for MAO HXXXXA and the HOS Total who reported hearing problems. More males (17.3%) than females (13.6%) in the HOS Total sample reported having hearing problems.

**Figure 15: 2010 Cohort 13 Baseline Percentage Unable to Hear Most Things People Say for MAO HXXXXA and HOS Total by Gender**



In 2008, as reported by the Federal Interagency Forum on Aging-Related Statistics, vision impairment affected 18% of the older population, 15% of men and 19% of women. Also, 42% of older men and 30% of older women in this study reported trouble hearing.<sup>9</sup>

Differences in the vision and hearing rates between the HOS sample and those reported for the general U.S. population age 65 and older may be attributed to the wording of the questions that were used in each study, particularly for hearing. The HOS question about hearing includes the use of an assistive device (hearing aid), while the question reported in the Forum's study excludes the device. In addition, compared to the HOS questions discussed on the previous page, the questions on hearing and vision used for the Forum's report were categorized with more detail and may elicit more positive responses:

- “WITHOUT the use of hearing aids or other listening devices, is your hearing “Excellent”, “Good”, “A little trouble hearing”, “Moderate trouble”, “A lot of trouble”, or “Are you deaf?” Any trouble hearing includes the categories from “A little trouble hearing” through “Are you deaf.”<sup>9</sup>
- “Do you have any trouble seeing, even when wearing glasses or contact lenses?” The category of “Any trouble seeing” included those who in a subsequent question report themselves as blind.<sup>9</sup>

## NCQA HEDIS MEASURES

Four Effectiveness of Care measures that are a part of HEDIS were included in the 2010 Medicare HOS: Management of Urinary Incontinence in Older Adults, Physical Activity in Older Adults, Fall Risk Management, and Osteoporosis Testing in Older Women. The results for the HEDIS measures are calculated by NCQA using data collected in the combined baseline and follow up survey samples from the same measurement year. For the 2010 measurement year, the *Cohort 13 Baseline* and *Cohort 11 Follow Up* data are combined. *Please note that for all other sections of this report the 2010 Cohort 13 Baseline sample only is utilized.*

For each of the HEDIS measures, the MAO may or may not have a rate reported depending on the denominator size. The denominator for the MAO must be at least 100 to obtain a reportable result for each rate. If the denominator was less than 100, NCQA assigned a result of *not applicable* (NA) for the rate. For additional HEDIS measure results for each MAO in the State, please refer to the NCQA HEDIS Measures Table in the Executive Summary section.

For detailed information about the NCQA HEDIS measures, please refer to the HEDIS 2010 Volume 6, Specifications for the Medicare Health Outcomes Survey Manual, which may be purchased by calling the NCQA Customer Support Telephone Line at 1-888-275-7585 or via NCQA's Secure Online Order Center ([www.ncqa.org](http://www.ncqa.org)).<sup>2</sup>

The following is a brief description of each of the HEDIS measures.

- **Management of Urinary Incontinence in Older Adults (MUI)**

The following components of this measure assess different facets of managing urinary incontinence in older adults:

Discussing Urinary Incontinence: The percentage of Medicare members 65 years of age and older who reported having a urine leakage problem in the past six months, and who discussed their urine leakage problem with their current doctor or other health provider.

Receiving Urinary Incontinence Treatment: The percentage of Medicare members 65 years of age and older who reported having a urine leakage problem in the past six months, and who received treatment for their current urine leakage problem.

- **Physical Activity in Older Adults (PAO)**

The following components of this measure assess different facets of promoting physical activity in older adults:

Discussing Physical Activity: The percentage of Medicare members 65 years of age and older who had a doctor's visit in the past 12 months, and who talked with a doctor or other health provider about their level of exercise or physical activity.

Advising Physical Activity: The percentage of Medicare members 65 years of age and older who had a doctor's visit in the past 12 months, and who received advice to start, increase or maintain their level of exercise or physical activity.

- **Fall Risk Management (FRM)**

The following components of this measure assess different facets of fall risk management.

Discussing Fall Risk: The percentage of Medicare members 75 years of age and older, or 65-74 years of age with balance or walking problems or a fall in the past 12 months, who were seen by a doctor or other health provider in the past 12 months, and who discussed falls or problems with balance or walking with their provider.

Managing Fall Risk: The percentage of Medicare members 65 years of age and older who had a fall or had problems with balance or walking in the past 12 months, who were seen by a doctor or other health provider in the past 12 months, and who received fall risk intervention from their provider.

- **Osteoporosis Testing in Older Women (OTO)**

This measure assesses the number of women 65 years of age and older who report ever having received a bone density test to check for osteoporosis.

The HEDIS Summary Table below presents the numerators, denominators and percentages for the HEDIS measure results for your MAO. The subsequent pages present specific information on the relevance and calculations for each of the measures, as well as the aggregated mean rates for the State, CMS Region, and HOS Total. For a list of the States within each CMS Region, you may visit the CMS website at [www.cms.gov/RegionalOffices](http://www.cms.gov/RegionalOffices).

2010 NCQA HEDIS SUMMARY TABLE			
HEDIS MEASURES PERFORMANCE FOR MAO HXXXA			
HEDIS Measure	Numerator	Denominator	Percent
<b>MUI</b>			
Discussing Urinary Incontinence	136	232	58.6%
Receiving Urinary Incontinence Treatment	85	231	36.8%
<b>PAO</b>			
Discussing Physical Activity	427	780	54.7%
Advising Physical Activity	372	782	47.6%
<b>FRM</b>			
Discussing Fall Risk	153	510	30.0%
Managing Fall Risk	173	309	56.0%
<b>OTO</b>			
Osteoporosis Testing in Older Women	353	478	73.8%

Please note: If the denominator for the MAO was less than 100, NCQA assigned a result of *not applicable* (NA).

## MANAGEMENT OF URINARY INCONTINENCE IN OLDER ADULTS

### Why Is It Important?

- Urinary Incontinence (UI) may cause a wide range of morbidities, including cellulitis, pressure ulcers, urinary tract infections, falls with fractures, sleep deprivation, social withdrawal, depression, and sexual dysfunction.<sup>37, 38</sup>
- Persons with UI are not being asked about their UI by a health care professional.<sup>39</sup> Consequently, urinary incontinence remains significantly underreported and underdiagnosed.<sup>40</sup>
- UI routine costs for the population over 64 years of age are \$10.2 billion. Combined direct and indirect costs of UI total \$27.8 billion.<sup>41</sup>
- Outpatient visit rates for UI in women more than doubled from 845 per 100,000 in 1994 to 1,845 per 100,000 in 2000.<sup>42</sup>

### Risk Factors

- Women are most likely to develop incontinence during pregnancy and childbirth, or after the hormonal changes of menopause.<sup>37, 43</sup>
- Older men may become incontinent as a result of bladder obstruction, or prostate surgery.<sup>37</sup>
- Pelvic trauma, spinal cord damage, decreased mobility, cognitive impairment, and some medications can contribute to episodes of UI.<sup>37</sup>

### Treatment

- Evidence in the literature shows that treatment may improve or cure UI in most patients.<sup>37</sup>
- Effective treatments include behavioral therapies such as bladder training and techniques for pelvic muscle rehabilitation.<sup>37, 38</sup> Low-intensity behavioral therapies are ideal first-line interventions that are inexpensive, low risk, and can be initiated effectively by primary care providers.<sup>43</sup>
- Pharmacologic therapies include anticholinergic agents and tricyclic anti-depressants.<sup>37</sup>
- Surgical therapies include injections with bulking agents,<sup>41</sup> and sling procedures.<sup>37</sup>

### HEDIS® Measure

The *Management of Urinary Incontinence in Older Adults* (MUI) measure is comprised of four questions to gather data on UI experiences, UI problems, patient/provider discussion of UI, and receipt of UI treatment. For MAO members aged 65 and older who respond to the Medicare HOS, two rates are calculated based on the following specifications:

#### *Discussing Urinary Incontinence Rate*

The number of respondents who reported they discussed their urine leakage problem with their provider is divided by the total number of respondents who indicated they had a urine leakage problem in the last six months.

#### *Receiving Urinary Incontinence Treatment Rate*

The number of respondents who reported they received treatment for their urine leakage problem is divided by the total number of respondents who indicated they had a urine leakage problem in the last six months and answered the question on treatment of the urine leakage problem.

### Results

2010 HEDIS MUI Measure for HOS Seniors		
Measure	Rate	Denominator*
Discussing Urinary Incontinence Rate	58.1%	98,014
Receiving Urinary Incontinence Treatment Rate	36.1%	97,576

In 2010, of the 98,014 HOS senior respondents in the denominator, 58.1% discussed their urine leakage problem with their provider.

In 2010, of the 97,576 HOS senior respondents in the denominator, 36.1% received treatment for urine leakage problem.

\*Denominators are based on the number of non-missing responses to each question.

## Discussing Urinary Incontinence Rate Calculation

**Denominator** The number of members 65 and older as of December 31 of the measurement year who responded to the survey and indicated that they had a urine leakage problem in the last six months.

Member choices *must* be as follows to be included in the denominator:

- Question 42 = “Yes”
- Question 43 = “A big problem” or “A small problem”
- Question 44 = “Yes” or “No”

**Numerator** The number of members in the denominator who indicated they discussed their urine leakage problem with their current provider.

Member choices *must* be as follows to be included in the numerator:

- Question 44 = “Yes”

<b>2010 NCQA HEDIS TABLE 1</b> <b>DISCUSSING URINARY INCONTINENCE RATE</b> <b>FOR STATEXX, CMS REGION XX, AND HOS TOTAL</b>									
	MEAN	SD	P10	P25	MEDIAN	P75	P90	MIN	MAX
StateXX	57.7	1.9	56.3	56.4	56.8	58.6	60.7	56.3	60.7
CMS Region XX	57.7	1.3	56.3	56.8	57.6	58.3	59.7	56.3	60.7
HOS Total	58.1	6.0	51.0	54.2	57.5	61.4	65.3	42.9	80.1

**Please Note:** If there is only one MAO in the state, the SD for the state was not calculated (NC); and the 10<sup>th</sup> (P10), the 25<sup>th</sup> (P25), 50<sup>th</sup> (Median), 75<sup>th</sup> (P75), and 90<sup>th</sup> (P90) percentiles, and the minimum and maximum rates will equal the MAO’s rate. If the number of responses in the denominator for the MAO rate was less than 100, the HEDIS Discussing Urinary Incontinence rate was not applicable (NA). If the rates for all MAOs in a state were NA, the HEDIS Discussing Urinary Incontinence rate was also NA for the state.

## Receiving Urinary Incontinence Treatment Rate Calculation

**Denominator** The number of members 65 and older as of December 31 of the measurement year who responded to the survey and indicated they had a urine leakage problem in the last six months.

Member choices *must* be as follows to be included in the denominator:

- Question 42 = “Yes”
- Question 43 = “A big problem” or “A small problem”
- Question 45 = “Yes” or “No”

**Numerator** The number of members in the denominator who indicated they received treatment for their current urine leakage problem.

Member choices *must* be as follows to be included in the numerator:

- Question 45 = “Yes”

<b>2010 NCQA HEDIS TABLE 2</b> <b>RECEIVING URINARY INCONTINENCE TREATMENT RATE</b> <b>FOR STATEXX, CMS REGION XX, AND HOS TOTAL</b>									
	MEAN	SD	P10	P25	MEDIAN	P75	P90	MIN	MAX
StateXX	36.4	1.0	35.2	35.6	36.6	36.8	37.7	35.2	37.7
CMS Region XX	36.0	0.9	35.1	35.4	35.5	36.8	37.3	34.9	37.7
HOS Total	36.1	4.2	30.8	33.0	36.0	38.8	41.1	24.1	52.0

Please see the note accompanying HEDIS Table 1 on page 37 for the meaning of NC and NA.

## PHYSICAL ACTIVITY IN OLDER ADULTS

### Why Is It Important?

- Engaging in physical activity is more influential than genetic factors in avoiding the deterioration issues that come with aging.<sup>44</sup>
- In community-dwelling older people, exercise reduces the impact of age on mortality and confers the greatest benefits to improvements in the health status of the frail elderly.<sup>45, 46</sup>
- Regular physical activity is associated with decreased risk for heart disease, hypertension, diabetes, certain cancers, arthritis, high cholesterol, osteoporosis and premature mortality.<sup>47, 48</sup>
- Lack of physical activity and poor diet are the major causes of obesity. The annual healthcare costs for obesity could be as high as \$147 billion as of 2008.<sup>49</sup>
- Physical activity improves muscle strength and balance, reducing the risk of falls. Fall-related injuries are projected to cost the nation more than \$32.4 billion by the year 2020.<sup>50</sup>
- Regular physical activity, e.g. tai chi and qigong, improves physical function, fosters a sense of well-being and reduces fall risk and risk of depressive symptoms and anxiety.<sup>51, 52, 53, 54</sup>

### Current Situation

- Physical activity decreases with increasing age. Of those aged 65-74 years, approximately 25% participate in regular leisure time physical activity, while 20% of those aged 75-84 and 11% of those 85 years and older participate.<sup>9</sup>
- There are gender, racial, and geographic differences in participation in regular physical activity: men are more likely than women, Whites are more likely than Blacks or Hispanics, and those in the North-Central and Western States are more likely to engage in regular physical activity.
- The goal of Healthy People 2010 has been to increase the proportion of all adults who engage in regular physical activity to 30%.<sup>55</sup>

### Recommendations

- Older adults should consult their health care provider to determine what level of physical activity is safe and appropriate.<sup>50</sup>
- Sedentary older adults should begin physical activity with short intervals of moderate activity (5 to 10 minutes).<sup>56, 57</sup>
- Flexibility training such as stretching and yoga should be done every day.<sup>50</sup>
- Strength training such as carrying laundry or groceries, chair exercises, or working in the yard should be done 2 to 3 days per week.<sup>50</sup>
- Cardiorespiratory activities such as walking, rolling a wheelchair or swimming should be engaged in 3 to 5 days a week for at least 30 minutes.<sup>50</sup>

### HEDIS® Measure

The *Physical Activity in Older Adults* (PAO) measure is comprised of two questions to gather data on a patient's discussion of physical activity with a doctor or other health provider. For MAO members aged 65 and older who respond to the Medicare HOS, two rates are calculated based on the following specifications:

#### *Discussing Physical Activity Rate*

The number of respondents who reported they discussed their level of exercise or physical activity with a doctor or other health provider is divided by the number of respondents who indicated they had a visit with a doctor or other health provider in the last 12 months.

#### *Advising Physical Activity Rate*

The number of respondents who reported that a doctor or other health provider advised them to start, increase or maintain their level of exercise is divided by the number of respondents who indicated they had a visit with a doctor or other health provider in the last 12 months.

### Results

2010 HEDIS PAO Measure for HOS Seniors		
Measure	Rate	Denominator*
Discussing Physical Activity Rate	52.5%	328,885
Advising Physical Activity Rate	47.6%	327,458

In 2010, of the 328,885 HOS senior respondents in the denominator, 52.5% discussed their level of exercise or physical activity with a doctor or other health provider.

In 2010, of the 327,458 HOS senior respondents in the denominator, 47.6% received advice to start, increase or maintain their level of exercise or physical activity from a doctor or other health provider.

\*Denominators are based on the number of non-missing responses to each question.

## Discussing Physical Activity Rate Calculation

**Denominator** The number of members 65 and older as of December 31 of the measurement year who responded to the survey and indicated whether they talked with a doctor or other health provider about their level of exercise or physical activity in the last 12 months.

Member choices *must* be as follows to be included in the denominator:

- Question 46 = “Yes” or “No”

**Numerator** The number of members in the denominator who indicated they talked with a doctor or other health provider about their level of exercise or physical activity.

Member choices *must* be as follows to be included in the numerator:

- Question 46 = “Yes”

<b>2010 NCQA HEDIS TABLE 3</b>									
<b>DISCUSSING PHYSICAL ACTIVITY RATE</b>									
<b>FOR STATEXX, CMS REGION XX, AND HOS TOTAL</b>									
	<b>MEAN</b>	<b>SD</b>	<b>P10</b>	<b>P25</b>	<b>MEDIAN</b>	<b>P75</b>	<b>P90</b>	<b>MIN</b>	<b>MAX</b>
StateXX	53.8	1.6	51.2	53.6	54.3	54.7	55.1	51.2	55.1
CMS Region XX	53.1	1.4	51.1	51.9	53.3	54.3	54.9	51.0	55.1
HOS Total	52.5	5.7	45.0	48.7	52.9	56.6	59.7	32.2	65.6

Please see the note accompanying HEDIS Table 1 on page 37 for the meaning of NC and NA.

## Advising Physical Activity Rate Calculation

**Denominator** The number of members 65 and older as of December 31 of the measurement year who responded to the survey and indicated whether or not a doctor or other health provider advised them to start, increase or maintain their level of exercise or physical activity in the last 12 months.

Member choices *must* be as follows to be included in the denominator:

- Question 47 = “Yes” or “No”

**Numerator** The number of members in the denominator who indicated they received advice from a doctor or other health provider to start, increase or maintain their level of exercise or physical activity.

Member choices *must* be as follows to be included in the numerator:

- Question 47 = “Yes”

*Note: Members who responded “I had no visits in the past 12 months” to Q46 are excluded from results calculation for Q47.*

<b>2010 NCQA HEDIS TABLE 4</b> <b>ADVISING PHYSICAL ACTIVITY RATE</b> <b>FOR STATEXX, CMS REGION XX, AND HOS TOTAL</b>									
	MEAN	SD	P10	P25	MEDIAN	P75	P90	MIN	MAX
StateXX	48.0	1.1	46.4	47.6	48.1	48.6	49.3	46.4	49.3
CMS Region XX	47.7	1.0	46.6	46.8	47.6	48.5	49.0	46.4	49.3
HOS Total	47.6	5.1	41.5	44.3	47.8	50.8	53.8	28.3	62.6

Please see the note accompanying HEDIS Table 1 on page 37 for the meaning of NC and NA.

## FALL RISK MANAGEMENT

### Why Is It Important?

- More than 30% of adults aged 65 or older fall each year and it is the most common cause of injuries among the elderly.<sup>58, 59, 60, 61</sup>
- Falls are a common cause of fatal injuries, nonfatal injuries, and nursing home admissions among older adults.<sup>30, 62</sup>
- Fall related injuries, e.g., hip fractures, are associated with significant functional decline, limited mobility, loss of ability to live independently, and decreased quality of life.<sup>58, 61</sup>
- In 2003, there were 13,700 fatal fall related injuries and 1.8 million non-fatal fall related injuries treated in emergency rooms.<sup>63</sup>
- On average, the hospitalization cost for a fall injury is \$17,500. Fractures are the most common and most costly type of nonfatal injuries. Although one third of nonfatal injuries are fractures, they account for 61% of the costs or \$12 billion.<sup>64</sup>
- The annual direct and indirect costs associated with falls are projected to reach \$54.9 billion (in 2007 dollars) by 2020.<sup>64</sup>

### Risk Factors

- The risk of fall related injuries increases with age. Adults 85 and older were four to five times more likely to have fall related injuries than adults 65-74 years of age.<sup>65</sup>
- Females are more likely than males to have non-fatal fall injuries, whereas males are more likely than females to have fatal fall injuries.<sup>65</sup>
- Other risk factors for falls include: lack of physical activity, misuse of alcohol, taking of specific prescription drugs, (e.g., psychotropic or narcotic medications), hearing or visual impairments, and unsafe home environments.<sup>66</sup>

### Prevention

- Regular exercise and exercise programs, e.g., tai chi, may increase strength and improve balance among older adults.<sup>58</sup>
- Regular medication reviews by physicians or pharmacists can help reduce side effects and drug interactions.<sup>58</sup>
- Regular eye check ups at least once a year maintain eye health.<sup>58</sup>
- Home assessment and modifications may reduce hazards in the home, e.g., improper lighting, that can lead to falls.<sup>30, 58, 66</sup>
- Fall prevention programs may need to provide and install safety devices to be effective in reducing environmental hazards.<sup>67</sup>

### HEDIS® Measure

The *Fall Risk Management* (FRM) measure consists of four questions to ascertain information on a beneficiary's history of falls or problems with balance or walking, a discussion of falls with a medical provider, and a provider's management of fall risk. For MAO members aged 65 and older who respond to the Medicare HOS, two rates are calculated based on the following specifications:

#### *Discussing Fall Risk Rate*

The number of respondents aged 75 or older, or aged 65-74 with a history of a fall or problems with balance or walking in the past 12 months who reported they had discussed falls or problems with balance or walking with their provider is divided by the number of respondents aged 75 or older or aged 65-74, and who had a fall or problems with balance or walking in the past 12 months, and who indicated that they had a visit with their doctor or other health provider in the last 12 months.

#### *Managing Fall Risk Rate*

The number of respondents aged 65 or older who had a fall or problems with balance or walking in the past 12 months, and who reported that they received fall risk intervention from their provider is divided by the number of respondents aged 65 or older who had a fall or problems with balance or walking in the past 12 months, and who indicated that they had a visit with their doctor or other health provider in the last 12 months and answered 'Yes' or 'No' to the question about receiving fall risk intervention.

### Results

2010 HEDIS FRM Measure for HOS Seniors		
Measure	Rate	Denominator*
Discussing Fall Risk Rate	32.4%	212,897
Managing Fall Risk Rate	58.7%	131,780

In 2010, of the 212,897 HOS senior respondents in the denominator, 32.4% discussed falls or problems with balance or walking.

In 2010, of the 131,780 HOS senior respondents in the denominator, 58.7% received advice on fall risk management.

\*Denominators are based on the number of non-missing responses to each question.

## Discussing Fall Risk Rate Calculation

**Denominator** The number of members 75 and older as of December 31 of the measurement year who had a visit in the past 12 months, *or* 65-74 years of age and older as of December 31 of the measurement year who had a visit in the past 12 months and who responded to the survey indicating they had a fall or problems with balance or walking in the past 12 months.

The criteria for inclusion in the denominator depend on member age.

For members 65-74 years of age as of December 31 of the measurement year, choices *must* be as follows to be included in the denominator:

- Question 48 = “Yes” or “No”
- Question 49 = “Yes” *or* Question 50 = “Yes”

For members 75 years of age and older as of December 31 of the measurement year, choices *must* be as follows to be included in the denominator:

- Question 48 = “Yes” or “No”

**Numerator** The number of members in the denominator who indicated they discussed falls or problems with balance or walking with their current provider.

Member choices *must* be as follows to be included in the numerator:

- Question 48 = “Yes”

<b>2010 NCQA HEDIS TABLE 5</b> <b>DISCUSSING FALL RISK RATE</b> <b>FOR STATEXX, CMS REGION XX, AND HOS TOTAL</b>									
	MEAN	SD	P10	P25	MEDIAN	P75	P90	MIN	MAX
StateXX	30.6	1.0	29.8	29.9	30.0	31.2	32.0	29.8	32.0
CMS Region XX	30.7	0.8	29.9	30.0	30.4	31.2	32.0	29.8	32.0
HOS Total	32.4	7.1	25.3	27.9	30.3	35.0	43.3	19.6	62.3

Please see the note accompanying HEDIS Table 1 on page 37 for the meaning of NC and NA.

## Managing Fall Risk Rate Calculation

**Denominator** The number of members 65 years of age and older who had a visit in the past 12 months and who responded to the survey indicating they had a fall or problems with balance or walking in the past 12 months.

Member choices *must* be as follows to be included in the denominator:

- Question 48 = “Yes” or “No”
- Question 49 = “Yes” *or* Question 50 = “Yes”
- Question 51 = “Yes” or “No”

**Numerator** The number of members in the denominator who indicated their provider authorized fall risk management.

Member choices *must* be as follows to be included in the numerator:

- Question 51 = “Yes”

<b>2010 NCQA HEDIS TABLE 6 MANAGING FALL RISK RATE FOR STATEXX, CMS REGION XX, AND HOS TOTAL</b>									
	MEAN	SD	P10	P25	MEDIAN	P75	P90	MIN	MAX
StateXX	58.6	3.0	56.0	56.4	58.2	59.0	63.5	56.0	63.5
CMS Region XX	58.4	2.2	56.2	56.4	58.6	59.0	61.5	56.0	63.5
HOS Total	58.7	8.4	49.7	53.0	57.5	62.7	69.5	40.4	88.8

Please see the note accompanying HEDIS Table 1 on page 37 for the meaning of NC and NA.

## OSTEOPOROSIS TESTING IN OLDER WOMEN

### Why Is It Important?

- Osteoporosis is the most common bone disease. It is characterized by low bone mass and deterioration of bone strength, which leads to an increased risk of fractures.<sup>68, 69, 70</sup>
- An estimated 10 million Americans aged 50 and older have osteoporosis and 34 million have low bone mass. By 2020, half of all Americans aged 50 and over could be at risk for osteoporosis.<sup>71</sup>
- Osteoporosis is a major cause of disability and mortality in older adults. Over 1.5 million fractures per year are attributable to osteoporosis. Each year, these fractures account for \$12-18 billion in direct health care costs, 500,000 hospitalizations, 800,000 emergency room visits, 2.6 million physician visits, and 180,000 nursing home admissions.<sup>72</sup>
- Prevention, diagnosis, and treatment of osteoporosis decrease injury and disability, improve quality of life for patients, and reduce costs to patients, caregivers, health care systems, and society.<sup>73</sup>

### Risk Factors

- The risk of developing osteoporosis increases with age and is higher in females than males. Among females, risk is higher in the postmenopausal than in the pre-menopausal period. Risk is also higher in Whites and Asians than other race/ethnic groups.<sup>70, 71, 72, 73, 74</sup>
- Other risk factors include: smoking, family history of osteoporosis, low weight and BMI, history of prior fracture, and taking certain medications that causes bone loss, e.g., oral glucocorticoids.<sup>70, 71, 72, 73, 74</sup>

### Prevention and Treatment

- Adequate amounts of calcium and vitamin D, avoidance of smoking and excessive alcohol, and regular weight bearing exercise can help prevent osteoporosis.<sup>75</sup>
- Medications for prevention and treatment of osteoporosis include: bisphosphonates (e.g., alendronate and risedronate), calcitonin, estrogen replacement, and selective estrogen receptor antagonists.<sup>76</sup> Since 2007, zoledronic acid has been available as a once yearly intravenous therapy.<sup>68</sup>
- Aerobics, weight bearing, resistance exercises and walking are effective in increasing the bone mineral density (BMD) of the spine and the hip.<sup>77</sup>

### HEDIS® Measure

The *Osteoporosis Testing in Older Women* (OTO) measure assesses the percentage of women aged 65 and over who report ever having received a bone density test to check for osteoporosis. For MAO members aged 65 and older who respond to the Medicare HOS, the results are calculated based on the following specifications:

#### *Osteoporosis Testing in Older Women Rate*

The number of female respondents who reported they ever had a bone density test to check for osteoporosis is divided by the number of female respondents who responded to the question “Have you ever had a bone density test to check for osteoporosis, sometimes thought of as ‘brittle bones’? This test may have been done to your back, hip, wrist, heel, or finger.”

### Results

2010 HEDIS OTO Measure for HOS Seniors		
Measure	Rate	Denominator*
Osteoporosis Testing Rate	69.6%	202,527

In 2010, of the 202,527 HOS female senior respondents in the denominator, 69.6% indicated that they had ever had a bone density test.

\*The denominator is based on the number of non-missing responses to the question.

Osteoporosis Testing in Older Women Rate Calculation

Denominator The number of female members aged 65 and older as of December 31 of the measurement year who responded to the survey and indicated whether they had a bone density test to check for osteoporosis.

Member choices *must* be as follows to be included in the denominator:

- Question 52 = “Yes” or “No”

Numerator The number of members in the denominator who indicated they had a bone density test to check for osteoporosis.

Member choices *must* be as follows to be included in the numerator:

- Question 52 = “Yes”

2010 NCQA HEDIS TABLE 7 OSTEOPOROSIS TESTING IN OLDER WOMEN RATE FOR STATEXX, CMS REGION XX, AND HOS TOTAL									
	MEAN	SD	P10	P25	MEDIAN	P75	P90	MIN	MAX
StateXX	72.5	2.3	69.8	70.4	73.1	73.8	75.3	69.8	75.3
CMS Region XX	71.6	2.3	68.9	69.8	71.3	73.6	74.6	68.1	75.3
HOS Total	69.6	10.2	54.9	62.2	71.3	77.7	81.4	38.3	88.8

Please see the note accompanying HEDIS Table 1 on page 37 for the meaning of NC and NA.

# APPENDIX 1

## PROGRAM BACKGROUND

This section provides a brief introduction to the Medicare HOS. A complete description of the HOS program, the program timeline, the HOS 2.0 instrument, previous survey results, and supporting documents may be found on the HOS website at [www.hosonline.org](http://www.hosonline.org).

## 2010 MEDICARE ADVANTAGE ORGANIZATION PARTICIPATION

All Medicare Advantage Organizations (MAOs), including local and regional preferred provider organizations (PPOs), and continuing cost contracts that held §1876 risk and cost contracts, with Medicare contracts in effect on or before January 1, 2009, were required by CMS to administer the *Cohort 13 Baseline* survey in 2010. MAOs composed exclusively of Special Needs Plan (SNP) benefit packages, regardless of institutionalized, chronically ill or dual eligible enrollment were also included in the above requirement. Private-Fee-For-Service (PFFS) plans and Medical Savings Accounts were required to report HOS in 2010. Furthermore, all MAOs that administered the HOS *Cohort 11 Baseline* Survey in 2008 were required to administer the HOS *Cohort 11 Follow Up* survey in 2010.

All Program of All-Inclusive Care for the Elderly (PACE) plans with Medicare contracts in effect on or before January 1, 2009, were required by CMS to administer the HOS-Modified survey in 2010.

## 2010 METHODOLOGY AND DESIGN

### Cohort 13 Baseline Sampling

- MAOs with fewer than 500 members were not required to report HOS.
- For MAOs with 500 to 1,200 members, all eligible members were included in the sample.
- For MAOs with more than 1,200 members and less than 3,000 members, a simple random sample of 1,200 members was selected for the baseline survey.
- For MAOs with 3,000 or more members, members who responded to the *2009 Cohort 12 Baseline* survey were excluded from the *2010 Cohort 13 Baseline* sample.
- Members were defined as eligible if they were 18 years or older on the date the sample was drawn. The six months enrollment requirement was waived beginning in 2009, and members with End Stage Renal Disease (ESRD) are no longer excluded from the sampling beginning in 2010.

### Survey Administration

- MAOs contracted with an NCQA-Certified survey vendor to administer the survey following the protocol specified in the HEDIS 2010, Volume 6, Specifications for the Medicare Health Outcomes Survey Manual ([www.ncqa.org](http://www.ncqa.org)). The manual details the methods for mail, telephone, and mixed methods of data collection.
- The mail component of the survey used a standardized questionnaire, survey letters, and prenotification and reminder/thank you postcards.

- Survey vendors attempted telephone follow up (with at least six attempts) in those instances when beneficiaries failed to respond after the second mail survey.
- Survey vendors also performed telephone follow up in English or Spanish for members who returned an incomplete mail survey in order to obtain missing responses. Survey vendors used a standardized version of a Computer Assisted Telephone Interviewing (CATI) script to collect telephone interview data for the survey. Survey vendors performed preliminary data cleaning, and follow up with survey respondents, as necessary.

### Data Cleaning

The entire HOS data file was reviewed to verify the presence of unique beneficiaries. Additional reviews of the data were performed using the complete HOS data file as well as subsets of the data, e.g., by mode of administration and vendor.

- Data consistency checks were performed to identify:
  - Out of range dates and response values
  - Duplicate Health Insurance Claim (HIC) numbers
  - Duplicate Social Security Numbers (SSN)
  - Data shifts in value assignment
  - Inconsistent data distributions among vendors
  - Inconsistent assignment of survey variables (such as survey disposition, round number, and survey language)
- Response consistency checks between related items were performed to validate the integrity of the data.

### HOS Survey Instrument

In 2006, CMS implemented the Medicare HOS 2.0 for MAOs. The HOS 2.0 evaluates Health Related Quality of Life (HRQOL) of Medicare Advantage beneficiaries by measuring their physical and mental health status using the Veterans RAND 12-Item Health Survey (VR-12).<sup>3</sup> The HOS contains questions about: socio-demographics, Activities of Daily Living (ADLs), chronic medical conditions, health symptoms, number of unhealthy days in the past 30 days, depression risk, and height and weight categories used for calculation of Body Mass Index (BMI). Four Healthcare Effectiveness Data and Information Set (HEDIS<sup>®</sup>)<sup>1</sup> measures are included to evaluate management of urinary incontinence, physical activity, osteoporosis testing and fall risk management.

The VR-12 was derived from the Veterans RAND 36 Item Health Survey (VR-36), historically called the Veterans SF-36.<sup>78, 79</sup> The VR-12 is a generic, multipurpose health survey, which consists of the 12 most important items from the VR-36 for construction of the physical and mental component summary scores. The shorter instrument was adopted to reduce response burden and survey costs, while producing similar results. The body of literature supports the shorter survey as a reliable and valid substitute for the 36-item health survey. In addition, conversion formulas have been developed and validated for comparison of the VR-12 with the earlier 36-item survey that allow reliable comparisons of HOS 1.0 and HOS 2.0 results.<sup>80</sup>

The VR-12 measures the same eight health domains as the 36-item health survey:

- Physical Functioning
- Role-Physical
- Role-Emotional
- Bodily Pain
- Social Functioning
- Mental Health
- Vitality
- General Health

In comparison with the earlier 36-item survey, two modifications were made in the VR-36 and VR-12. The first modification was an increase in the number of response choices for the role-physical and role-emotional items from a two point choice of “Yes” or “No” to a five-point Likert scale (“No, none of the time,” “Yes, a little of the time,” “Yes, some of the time,” “Yes, most of the time,” and “Yes, all of the time”). The second modification was the use of two items to assess health change, one focusing on physical health and one on emotional problems, in contrast to the one general change item in the 36-item survey.<sup>81, 82</sup>

#### Physical and Mental Component Summary Scores

- The physical component summary (PCS) and mental component summary (MCS) scores were calculated from the VR-12, using the Modified Regression Estimate (MRE) for imputation and scoring of missing data.<sup>3</sup> The MRE used complete cases to estimate a regression equation where only those items that are present were used. Depending on the pattern of missing item responses, a different set of regression weights was required.<sup>83</sup>
- CMS used norm-based algorithms with 1990 norms, which yielded favorably scored (i.e., higher is better) measures that have a mean of 50 and a standard deviation of 10 in the general U.S. population.
- PCS and MCS scores are scaled from 0 to 100. Although rarely occurring, PCS and MCS scores of less than 0 are mathematically possible.
- For the physical health summary measure, very high scores indicate no physical limitations, disabilities or decline in well being; high energy level; and a rating of health as “excellent.”
- For the mental health summary measure, very high scores indicate frequent positive affect, absence of psychological distress, and no limitations in usual social and role activities due to emotional problems.

#### Case-Mix Adjustment

- The PCS and MCS scores were case-mix adjusted to allow for equitable comparisons across all MAOs. Case-mix adjustment is a statistical technique that controls for differences in demographics, socioeconomic characteristics, chronic medical conditions, and HOS study design variables.
- Models used to adjust the summary scores included variables to control for differences in demographic and socioeconomic characteristics, chronic medical conditions, and HOS study design variables.
  - Demographic and socioeconomic characteristics included age, gender, race, education, marital status, and annual household income.

- Chronic medical conditions were measured with a checklist of 14 medical conditions.
- HOS study design variables included who completed the survey, the mode of survey administration, CMS Region, and the survey vendor.
- Three different models were used for each measure since not all beneficiaries had completed data for all of the covariates. Only one model, the most comprehensive model possible, was used for each beneficiary and an adjusted score was calculated for each.
  - Model One: If a beneficiary had completed data for all of the covariates, then the adjusted scores were calculated using Model One, which contains all variables.
  - Model Two: If the beneficiary had completed data for all covariates except annual household income, Model Two was used.
  - Model Three: If a beneficiary did not have enough completed data for Model One or Two, then Model Three was used. The variables included in Model Three, which are available for all beneficiaries sampled, were age, gender, race, mode of survey administration, CMS Region, and survey vendor.

Table 13 below describes the covariates used in the case-mix adjustment models.

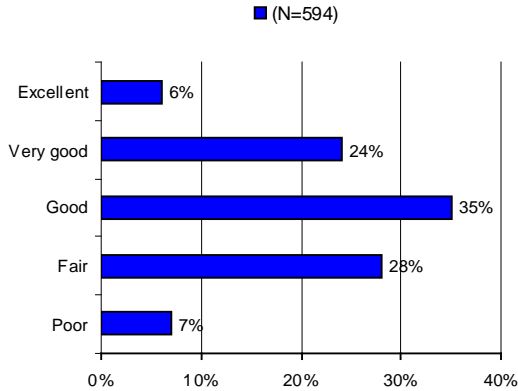
<b>TABLE 13 COVARIATES USED IN THE CASE MIX ADJUSTMENT OF PCS and MCS SCORES</b>			
	<b>PCS AND MCS MODELS</b>		
<b>DEMOGRAPHICS COVARIATES</b>	<b>ONE</b>	<b>TWO</b>	<b>THREE</b>
Age (Integer)	√	√	√
Gender (Male or Female)	√	√	√
Race (White, Black, Other Minority)	√	√	√
Education	√	√	
Marital Status	√	√	
Annual Household Income	√		
<b>CHRONIC MEDICAL CONDITIONS</b>			
Hypertension or high blood pressure	√	√	
Angina pectoris or coronary artery disease	√	√	
Congestive heart failure	√	√	
Myocardial infarction or heart attack	√	√	
Other heart conditions, such as problems with heart valves or arrhythmias	√	√	
Stroke	√	√	
Emphysema, or asthma, or COPD (Chronic Obstructive Pulmonary Disease)	√	√	
Crohn's disease, ulcerative colitis, or inflammatory bowel disease	√	√	
Arthritis of the hip or knee	√	√	
Arthritis of the hand or wrist	√	√	
Osteoporosis	√	√	
Sciatica	√	√	
Diabetes, high blood sugar, or sugar in the urine	√	√	
Any cancer (other than skin cancer)	√	√	
<b>HOS STUDY DESIGN VARIABLES</b>			
Who Completed Survey (Self or Other)	√	√	
Mode of Survey Administration (Mail or Telephone)	√	√	√
CMS Region	√	√	√
Survey Vendor	√	√	√

Note: Model One included all covariates listed in Table 13 and was used for beneficiaries with completed data for all of the covariates. Model Two was used for beneficiaries with completed data for all of the covariates except annual household income. Model Three was limited to age, gender, race, mode of survey administration, CMS Region, and survey vendor, and was used for beneficiaries who did not have enough completed data for Model One or Model Two. The variables included in Model Three were available for all participating beneficiaries.

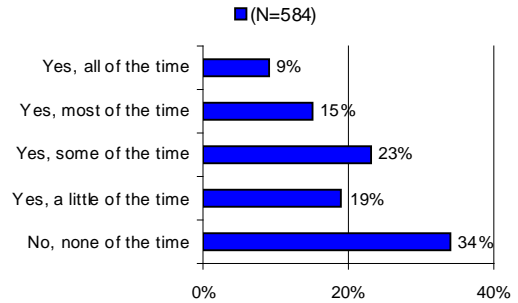
## APPENDIX 2

### 2010 COHORT 13 BASELINE FREQUENCIES OF SURVEY FIELDS FOR MAO HXXXA <sup>84</sup>

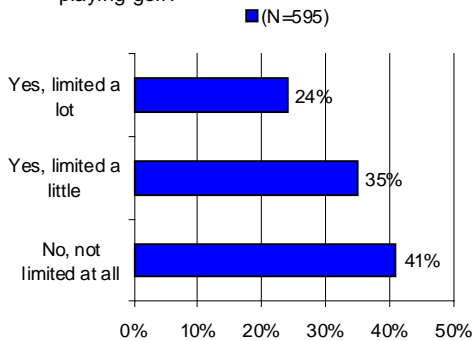
Q1. In general, would you say your health is:



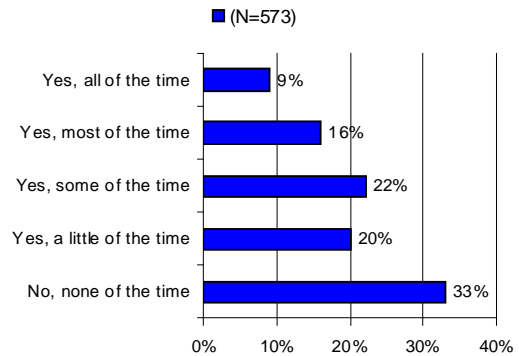
Q3a. During the past 4 weeks, have you accomplished less than you would like with your work or other regular activities as a result of your physical health?



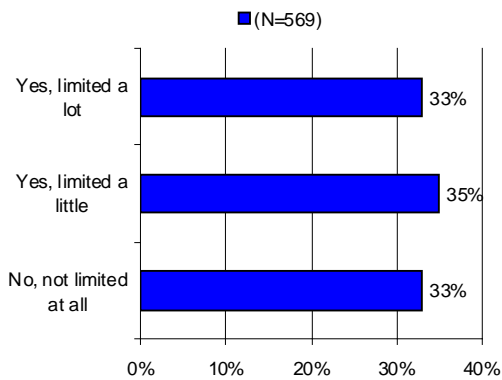
Q2a. Does your health now limit you in moderate activities such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?



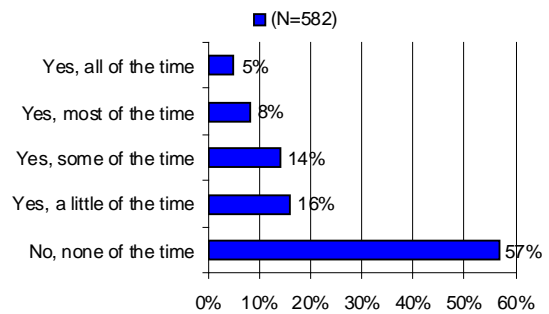
Q3b. During the past 4 weeks, were you limited in the kind of work or other activities as a result of your physical health?



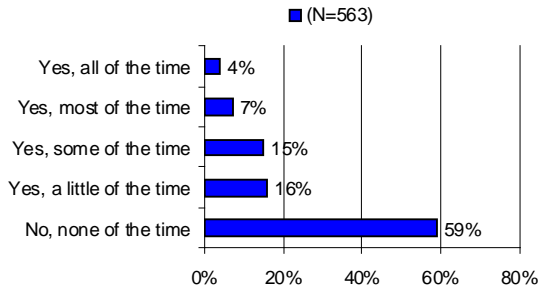
Q2b. Does your health now limit you in climbing several flights of stairs?



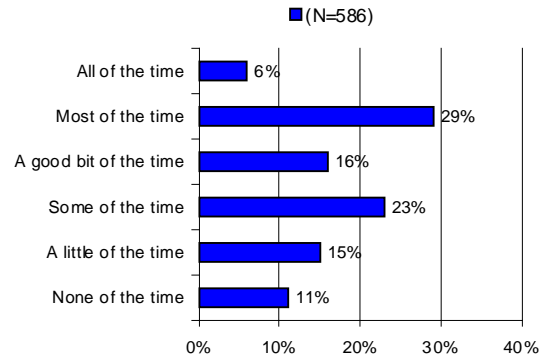
Q4a. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems: Accomplished less than you would like?



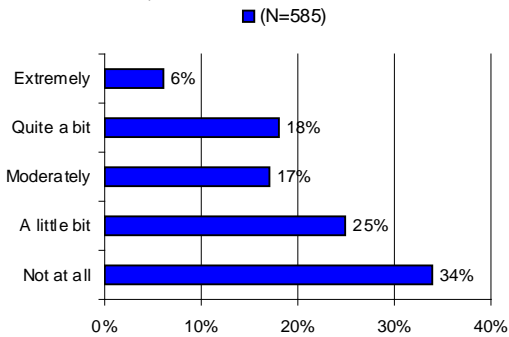
Q4b. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems: Didn't do work or other activities as carefully as usual?



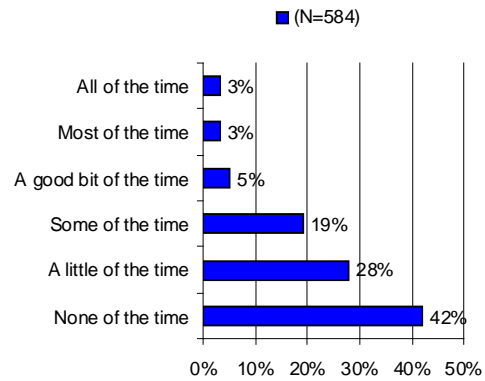
Q6b. How much of the time during the past 4 weeks: Did you have a lot of energy?



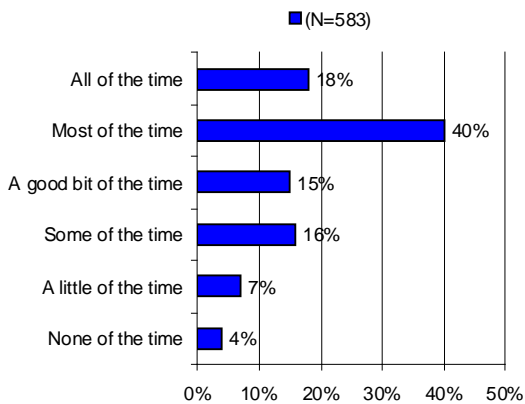
Q5. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?



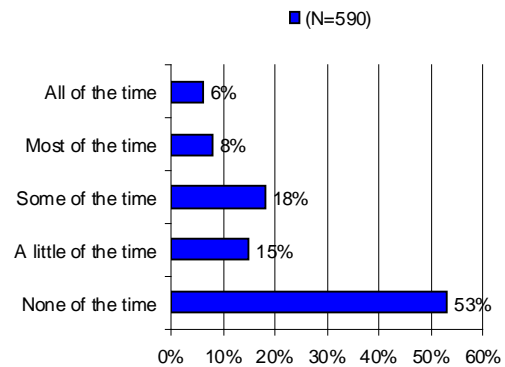
Q6c. How much of the time during the past 4 weeks: Have you felt downhearted and blue?



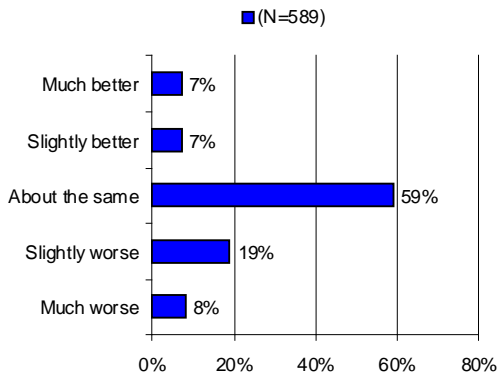
Q6a. How much of the time during the past 4 weeks: Have you felt calm and peaceful?



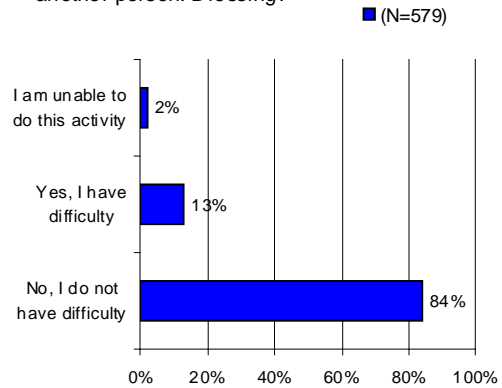
Q7. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?



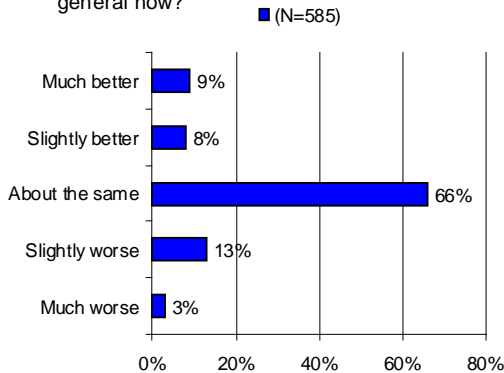
Q8. Compared to one year ago, how would you rate your physical health in general now?



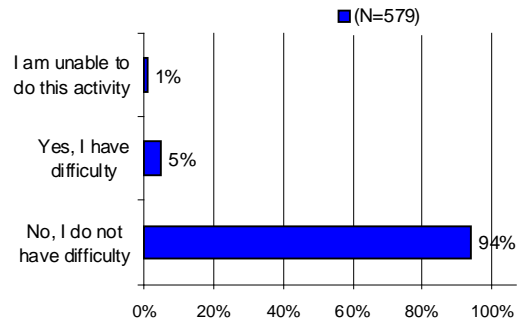
Q10b. Because of a health or physical problem, do you have any difficulty doing the following activities without special equipment or help from another person: Dressing?



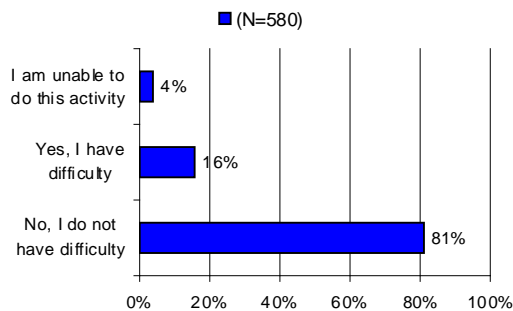
Q9. Compared to one year ago, how would you rate your emotional problems (such as feeling anxious, depressed or irritable) in general now?



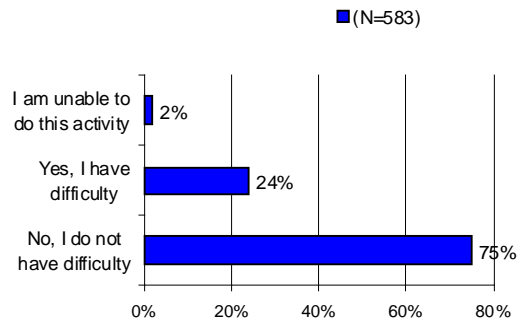
Q10c. Because of a health or physical problem, do you have any difficulty doing the following activities without special equipment or help from another person: Eating?



Q10a. Because of a health or physical problem, do you have any difficulty doing the following activities without special equipment or help from another person: Bathing?

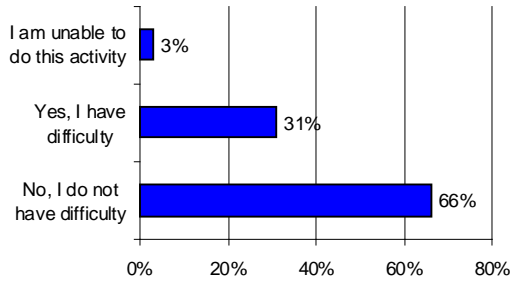


Q10d. Because of a health or physical problem, do you have any difficulty doing the following activities without special equipment or help from another person: Getting in or out of chairs?



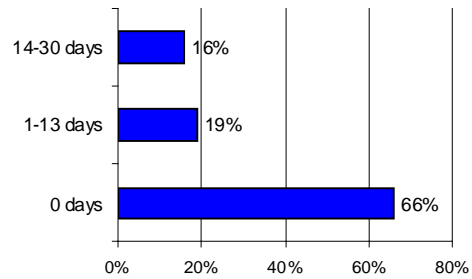
Q10e. Because of a health or physical problem, do you have any difficulty doing the following activities without special equipment or help from another person: Walking?

■ (N=583)



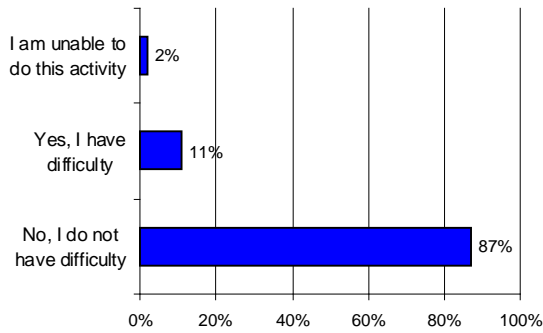
Q12. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

■ (N=566)



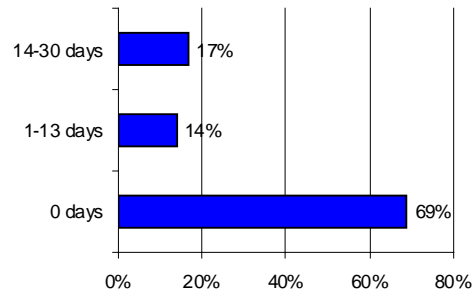
Q10f. Because of a health or physical problem, do you have any difficulty doing the following activities without special equipment or help from another person: Using the toilet?

■ (N=580)



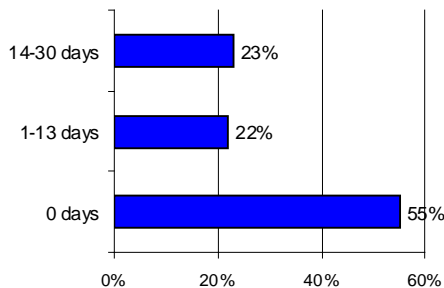
Q13. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

■ (N=561)



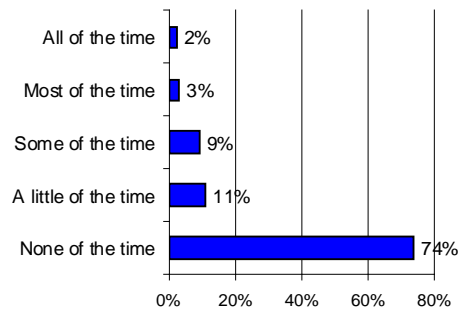
Q11. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

■ (N=558)

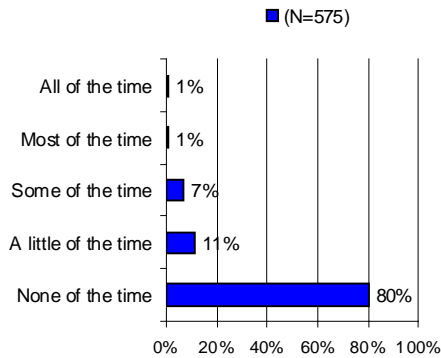


Q14a. During the past 4 weeks, how often have you had chest pain or pressure when you exercise?

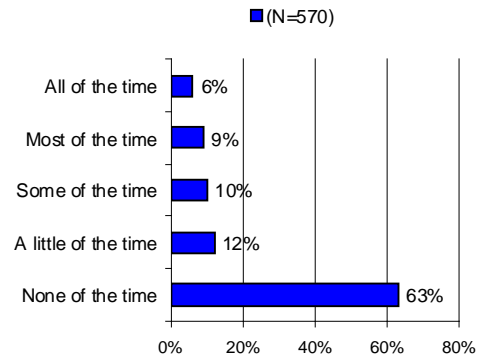
■ (N=572)



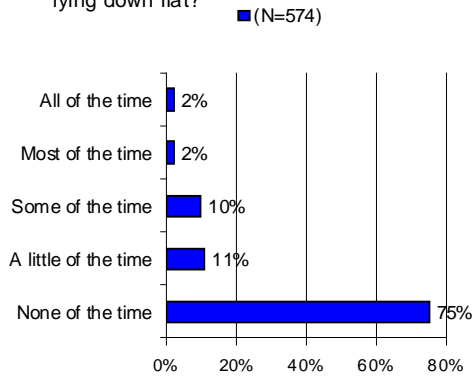
Q14b. During the past 4 weeks, how often have you had chest pain or pressure when resting?



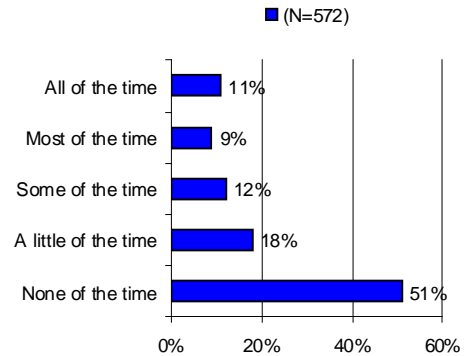
Q15c. During the past 4 weeks, how often have you felt short of breath when walking less than one block?



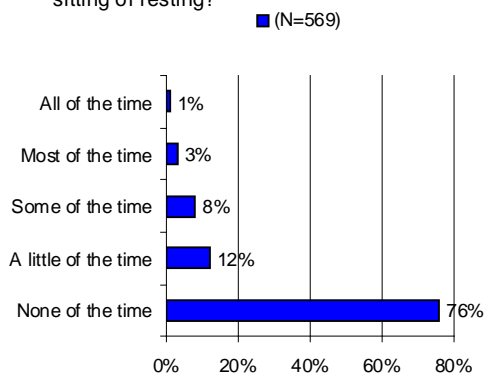
Q15a. During the past 4 weeks, how often have you felt short of breath when lying down flat?



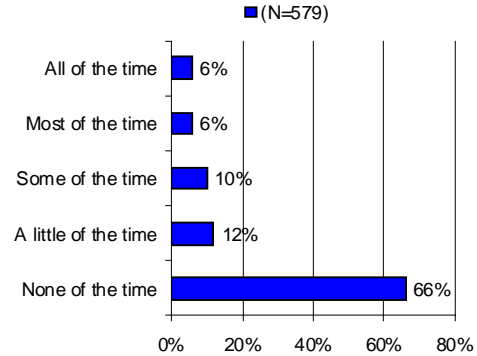
Q15d. During the past 4 weeks, how often have you felt short of breath when climbing one flight of stairs?



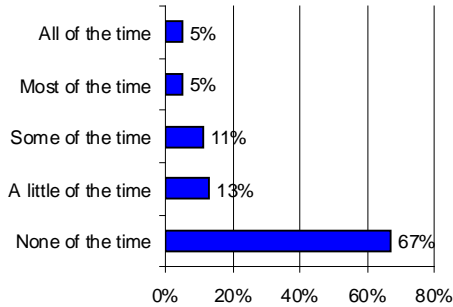
Q15b. During the past 4 weeks, how often have you felt short of breath when sitting or resting?



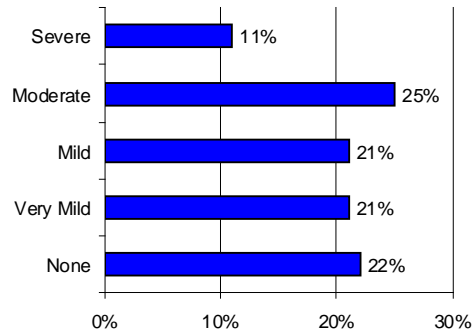
Q16a. During the past 4 weeks, how much of the time have you had numbness or loss of feeling in your feet?



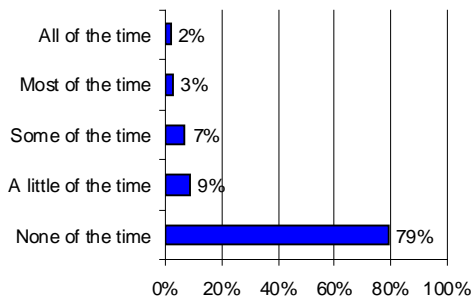
Q16b. During the past 4 weeks, how much of the time have you had tingling or burning sensation in your feet especially at night? (N=574)



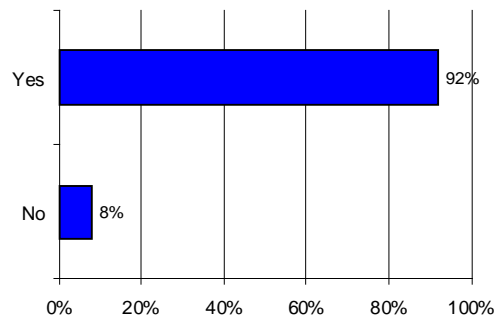
Q17. During the past 4 weeks, how would you describe any arthritis pain you usually had? (N=578)



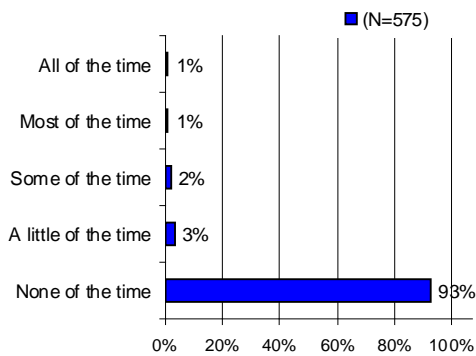
Q16c. During the past 4 weeks, how much of the time have you had decreased ability to feel hot or cold with your feet? (N=571)



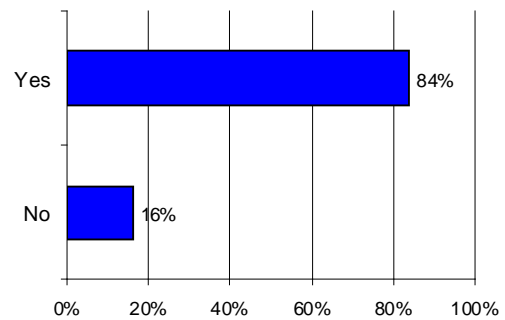
Q18. Can you see well enough to read newspaper print (with your glasses or contacts if that's how you see best)? (N=583)



Q16d. During the past 4 weeks, how much of the time have you had sores or wounds on your feet that did not heal? (N=575)

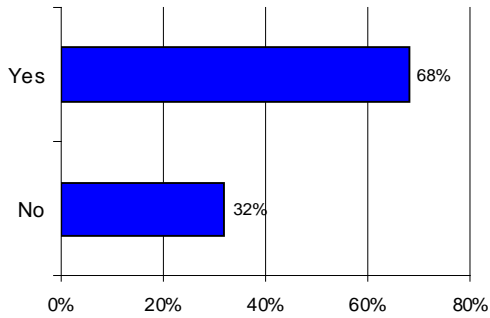


Q19. Can you hear most of the things people say (with a hearing aid if that's how you hear best)? (N=570)



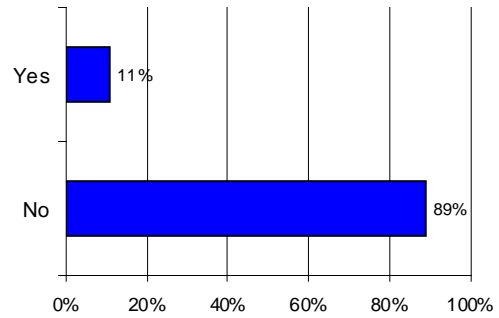
Q20. Has a doctor ever told you that you had: Hypertension or high blood pressure?

■ (N=580)



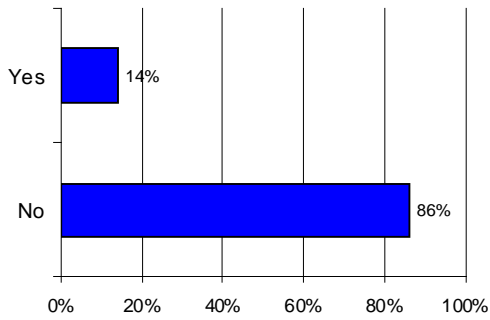
Q23. Has a doctor ever told you that you had: A myocardial infarction or heart attack?

■ (N=577)



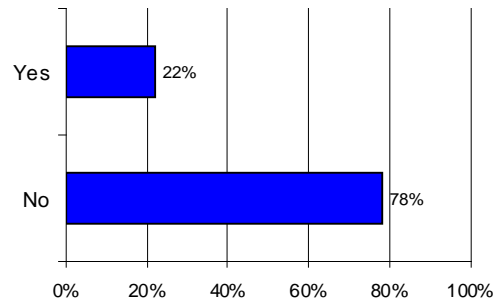
Q21. Has a doctor ever told you that you had: Angina pectoris or coronary artery disease?

■ (N=571)



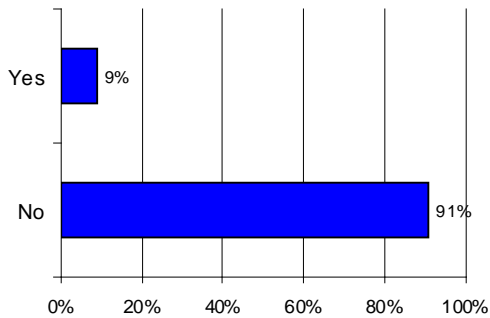
Q24. Has a doctor ever told you that you had: Other heart conditions, such as problems with heart valves or the rhythm of your heartbeat?

■ (N=576)



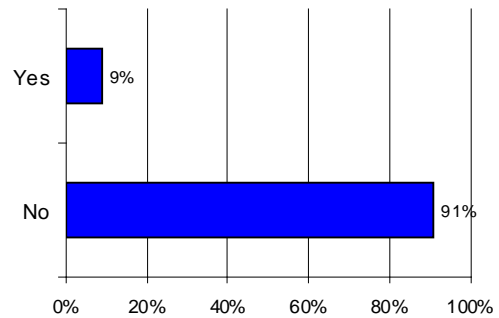
Q22. Has a doctor ever told you that you had: Congestive heart failure?

■ (N=573)

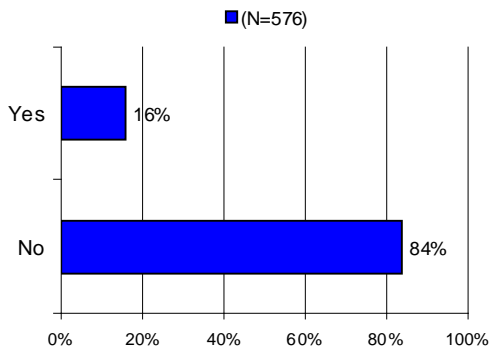


Q25. Has a doctor ever told you that you had: A stroke?

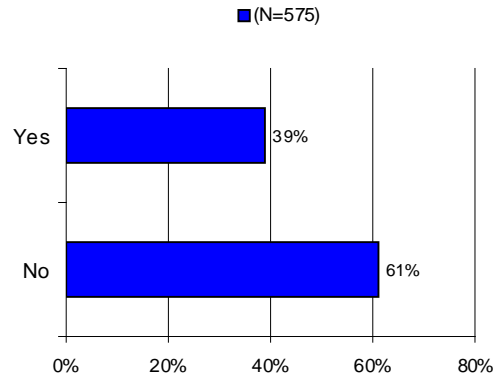
■ (N=574)



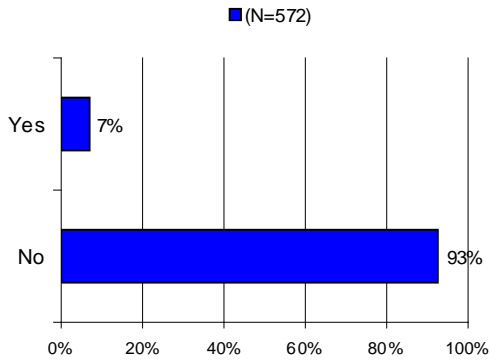
Q26. Has a doctor ever told you that you had: Emphysema, or asthma, or COPD (chronic obstructive pulmonary disease)?



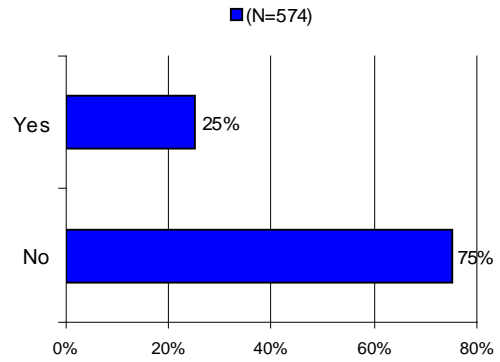
Q29. Has a doctor ever told you that you had: Arthritis of the hand or wrist?



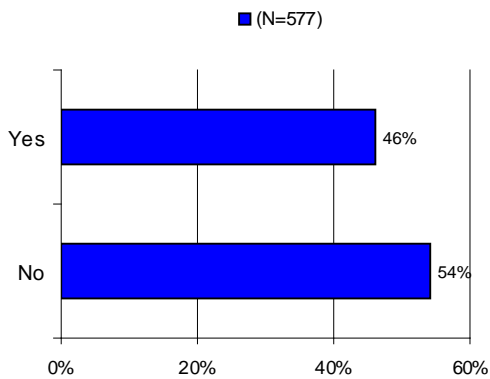
Q27. Has a doctor ever told you that you had: Crohn's disease, ulcerative colitis, or inflammatory bowel disease?



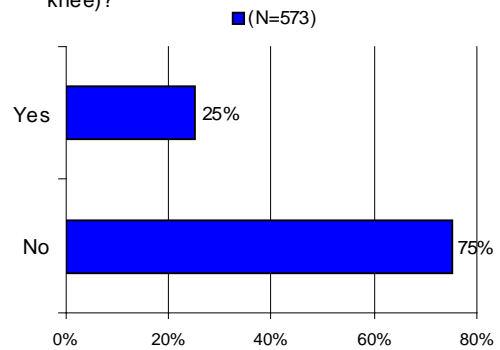
Q30. Has a doctor ever told you that you had: Osteoporosis, sometimes called thin or brittle bones?



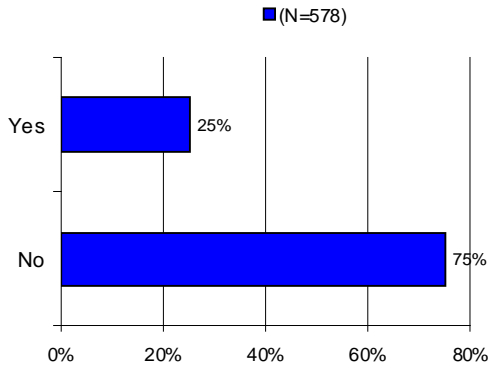
Q28. Has a doctor ever told you that you had: Arthritis of the hip or knee?



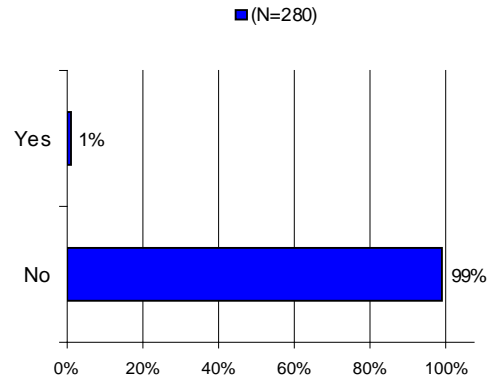
Q31. Has a doctor ever told you that you had: Sciatica (pain or numbness that travels down your leg to below your knee)?



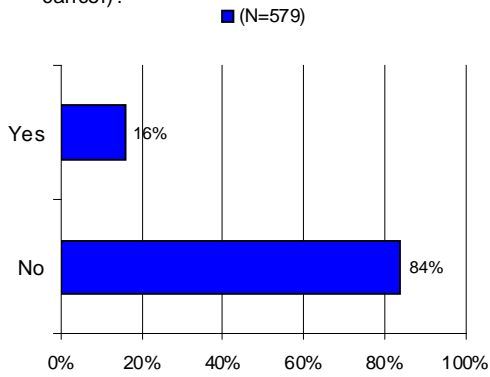
Q32. Has a doctor ever told you that you had: Diabetes, high blood sugar, or sugar in the urine?



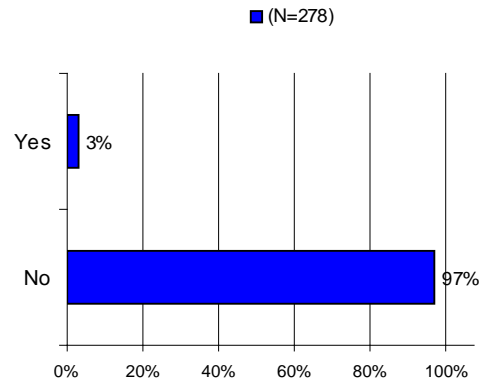
Q34b. Are you currently under treatment for: Lung cancer?



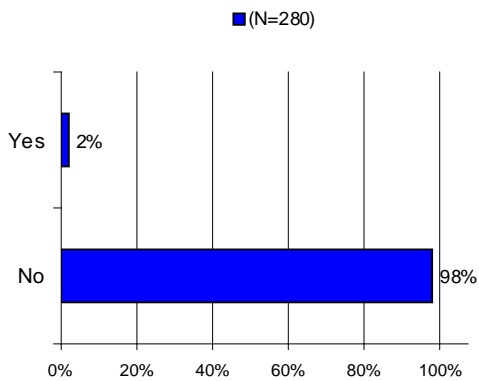
Q33. Has a doctor ever told you that you had: Any cancer (other than skin cancer)?



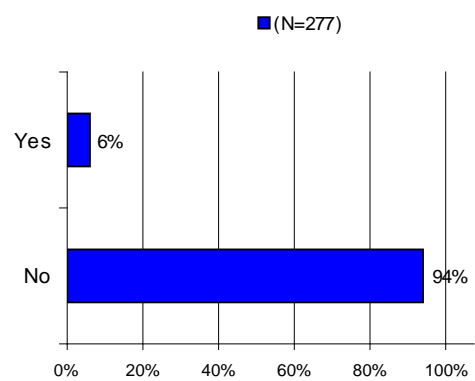
Q34c. Are you currently under treatment for: Breast cancer?



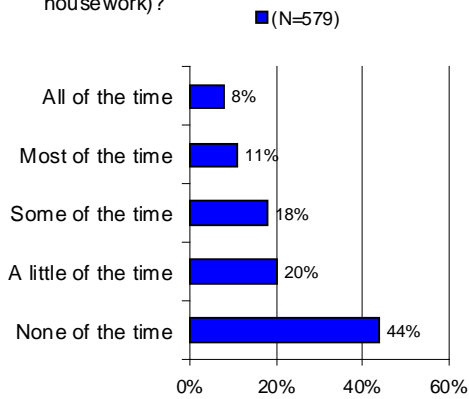
Q34a. Are you currently under treatment for: Colon or rectal cancer?



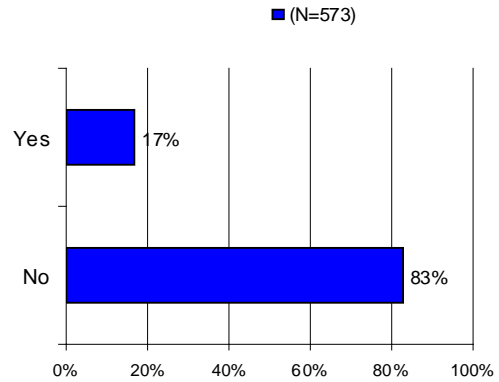
Q34d. Are you currently under treatment for: Prostate cancer?



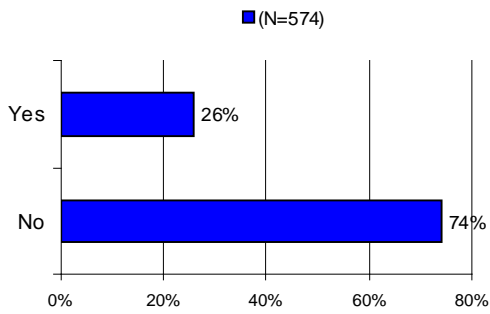
Q35. In the past 4 weeks, how often has low back pain interfered with your usual daily activities (work, school or housework)?



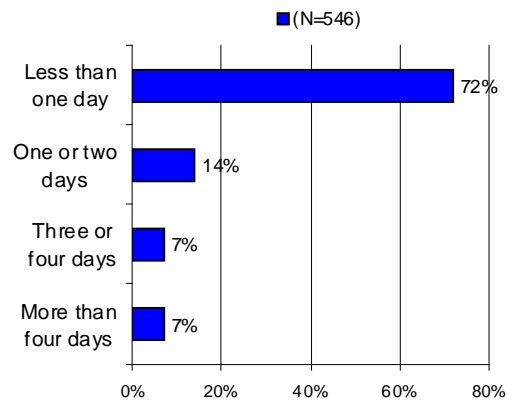
Q38. Have you ever had 2 years or more in your life when you felt depressed or sad most days, even if you felt okay sometimes?



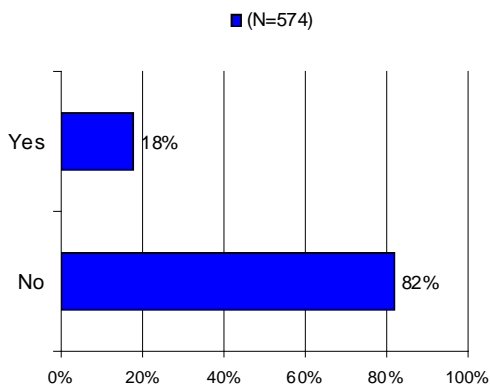
Q36. In the past year, have you had 2 weeks or more during which you felt sad, blue or depressed; or when you lost interest or pleasure in things that you usually cared about or enjoyed?



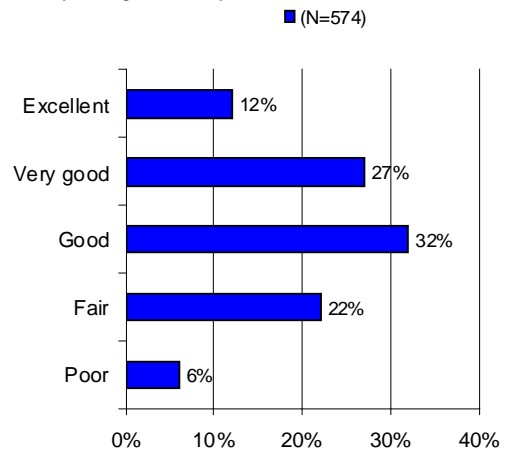
Q39. How much of the time in the past week did you feel depressed?



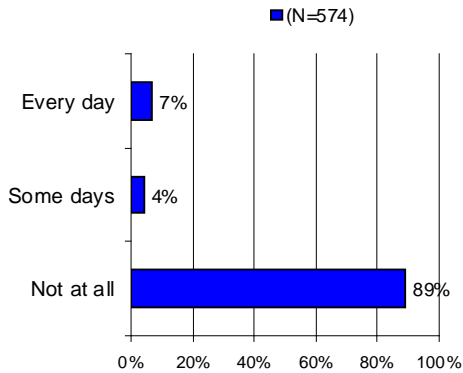
Q37. In the past year, have you felt depressed or sad much of the time?



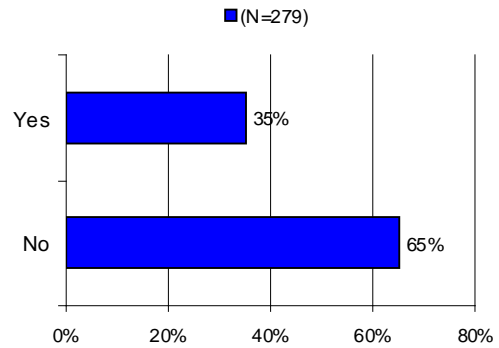
Q40. In general, compared to other people your age, would you say that your health is:



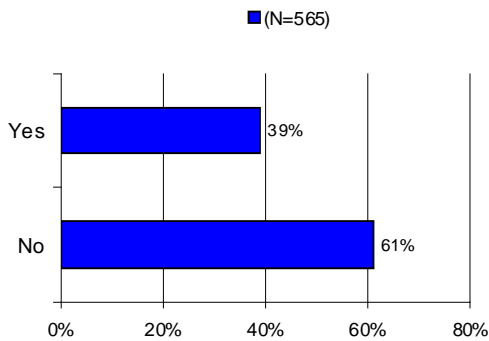
Q41. Do you now smoke every day, some days, or not at all?



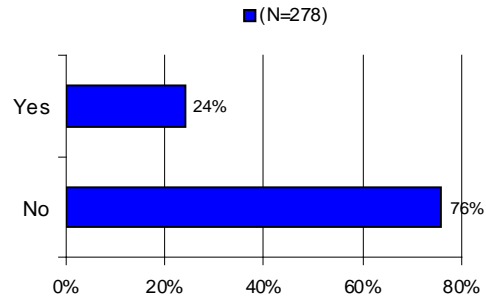
Q44. Have you talked with your current doctor or other health provider about your urine leakage problem?



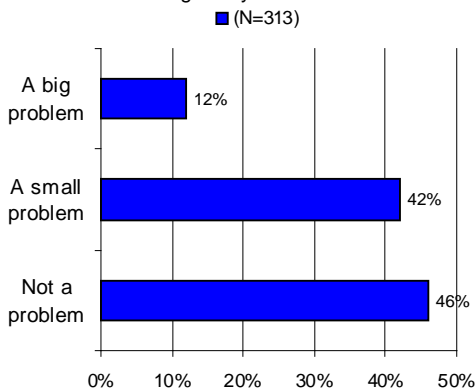
Q42. Many people experience problems with urinary incontinence, the leakage of urine. In the past 6 months, have you accidentally leaked urine?



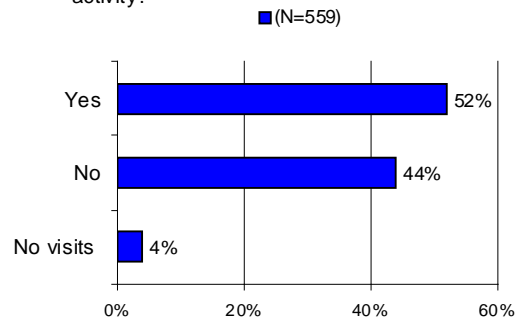
Q45. There are many ways to treat urinary incontinence including bladder training, exercises, medication and surgery. Have you received these or any other treatments for your current urine leakage problems?



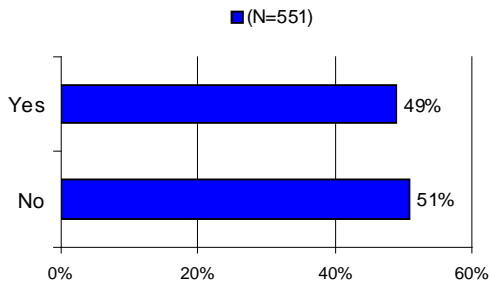
Q43. How much of a problem, if any, was the urine leakage for you?



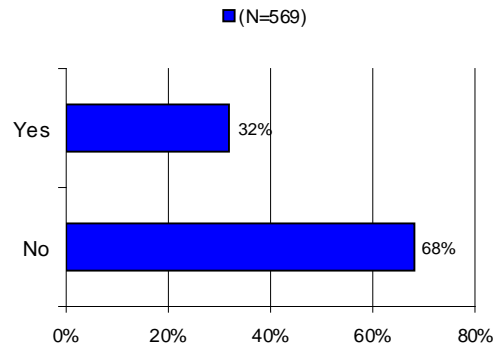
Q46. In the past 12 months, did you talk with a doctor or other health provider about your level of exercise or physical activity?



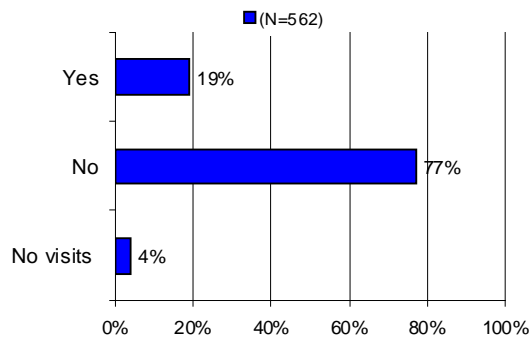
Q47. In the past 12 months, did a doctor or other health provider advise you to start, increase or maintain your level of exercise or physical activity?



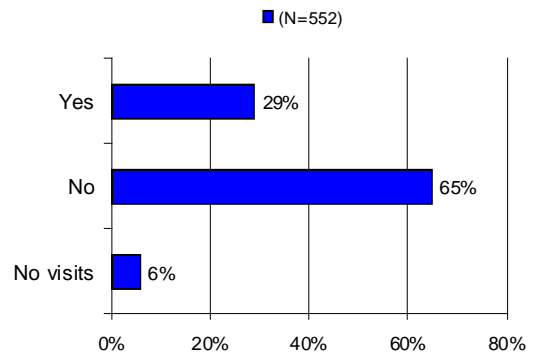
Q50. In the past 12 months, have you had a problem with balance or walking?



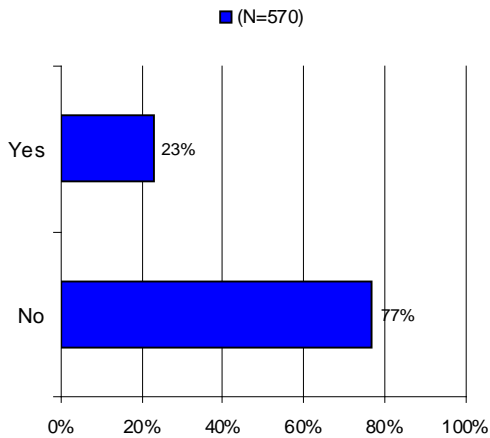
Q48. A fall is when your body goes to the ground without being pushed. In the past 12 months, did you talk with your doctor or other health provider about falling or problems with balance or walking?



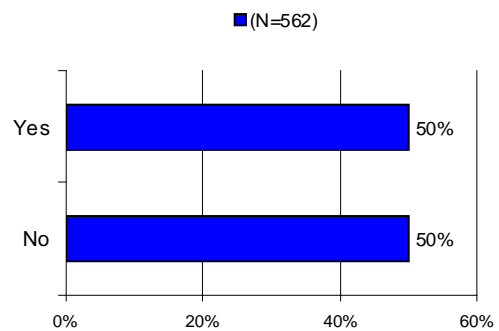
Q51. Has your doctor or other health provider done anything to help prevent falls or treat problems with balance or walking?



Q49. Did you fall in the past 12 months?



Q52. Have you ever had a bone density test to check for osteoporosis, sometimes thought of as "brittle bones"? This test may have been done to your back, hip, wrist, heel or finger.



## REFERENCES

- 
- <sup>1</sup> HEDIS<sup>®</sup> is a registered trademark of the National Committee for Quality Assurance.
- <sup>2</sup> National Committee for Quality Assurance. *HEDIS<sup>®</sup> 2010, Volume 6: Specifications for the Medicare Health Outcomes Survey*. Washington, DC: NCQA Publication, 2010.
- <sup>3</sup> Iqbal SU, Rogers W, Selim A, Qian S, Lee A, Ren, XS, Rothendler, J, Miller D, Kazis L. The Veterans RAND 12 Item Health Survey (VR-12): What it is and How it is used. Accessed March 2, 2011 at [www.chqoer.research.va.gov/docs/VR12.pdf](http://www.chqoer.research.va.gov/docs/VR12.pdf).
- <sup>4</sup> Centers for Disease Control and Prevention. Arthritis: Quick Stats on Arthritis. Accessed March 8, 2011 at [www.cdc.gov/arthritis/basics/key.htm](http://www.cdc.gov/arthritis/basics/key.htm).
- <sup>5</sup> Health Services Advisory Group. *Medicare Health Outcomes Survey: Prevalence of Obesity in Medicare Advantage Organizations and its Effect on Health Services Utilization and Health Related Quality of Life*. 2011. Accessed April 26, 2011 at [www.hosonline.org/surveys/hos/download/Prevalence\\_Of\\_Obesity\\_In\\_MAOs\\_Final\\_Technical\\_Report\\_2011.pdf](http://www.hosonline.org/surveys/hos/download/Prevalence_Of_Obesity_In_MAOs_Final_Technical_Report_2011.pdf).
- <sup>6</sup> Do BT, Hootman JM, Helmick CG, and Brady TJ. Monitoring healthy people 2010 arthritis management objectives: education and clinician counseling for weight loss and exercise. *Annals of Family Medicine*. 2011;9(2):136-141.
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